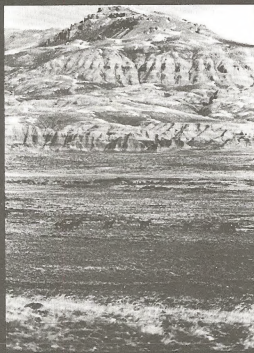
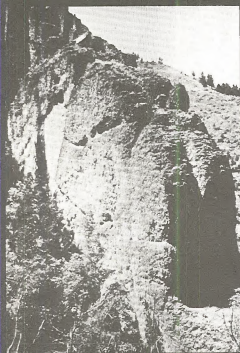


Revised Draft

Rock Springs District



WILDERNESS

Environmental Impact Statement

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CHEYENNE, WYOMING 82003



September 1988

Dear Reader:

This Revised Draft Environmental Impact Statement (EIS) covers wilderness recommendations for 13 Wilderness Study Areas (WSAs) in the Rock Springs District, Wyoming. The potential environmental impacts of the alternatives were evaluated for each WSA. Designation of the entire WSA (All Wilderness) was evaluated for all WSAs. Nondesignation of the entire WSA (No Wilderness - No Action) was evaluated for all WSAs. Designation of part of the WSA (Partial Wilderness) was evaluated in detail for three of the WSAs.

I would appreciate your review of this Revised Draft EIS. Comments will be accepted for 90 days following the date the Environmental Protection Agency (EPA) publishes the Notice of Availability (filing) in the *Federal Register*. Please send comments to:

Alan Stein
Rock Springs District
Bureau of Land Management
P.O. Box 1869
Rock Springs, Wyoming 82902-1869

A public hearing will be held in Rock Springs after the Revised Draft EIS is published, at a time and place to be announced. Oral statements will be limited to no more than 10 minutes. Longer written statements will be accepted for the record. After all scheduled participants have testified, other members of the public will be given the opportunity to testify.

The Revised Draft EIS is your opportunity to participate in the decision-making process. Because both the content and recommendations in this document are substantially different from the first Draft EIS issued in 1983, those who commented on the 1983 Draft EIS should also comment on this document. The only comments that will be considered in the preparation of the Final EIS will be the comments received on this Revised Draft EIS.

Please retain a copy of this document. If major revisions are not necessary, an abbreviated Final EIS may be prepared. If this happens, this Revised Draft EIS will serve as Volume I of the Final EIS. Additions or changes will be included in the abbreviated Final EIS.

If you have any questions about this document or about the hearing, please contact Alan Stein in Rock Springs at 307-382-6350.

Sincerely,


Hillary A. Oden
State Director



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1988

REVISED DRAFT

**WILDERNESS
ENVIRONMENTAL IMPACT STATEMENT
for the
ROCK SPRINGS DISTRICT, WYOMING**

(Fremont, Lincoln, Sublette and Sweetwater Counties, Wyoming)

Prepared By:

U.S. Department of the Interior
Bureau of Land Management
Rock Springs District
1988

Hillary A. Owen
Wyoming State Director

7-21-88
Date



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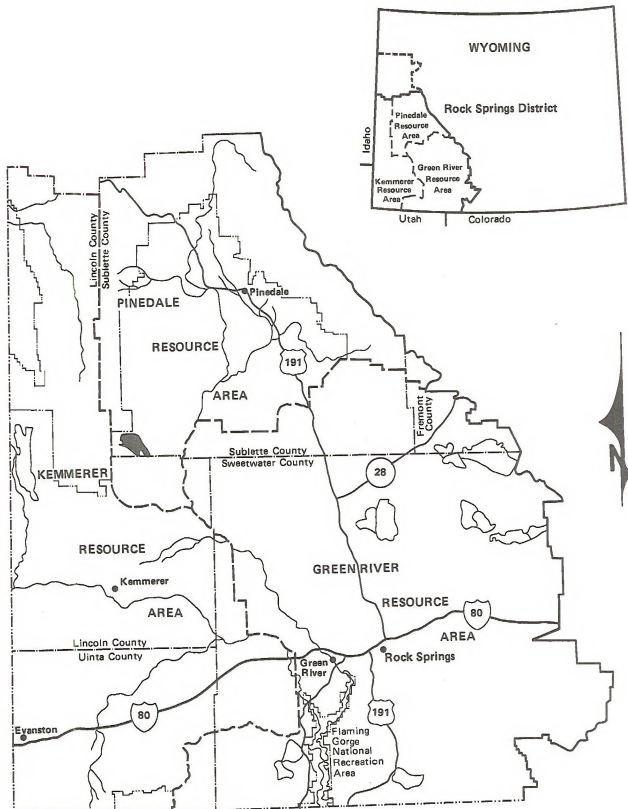
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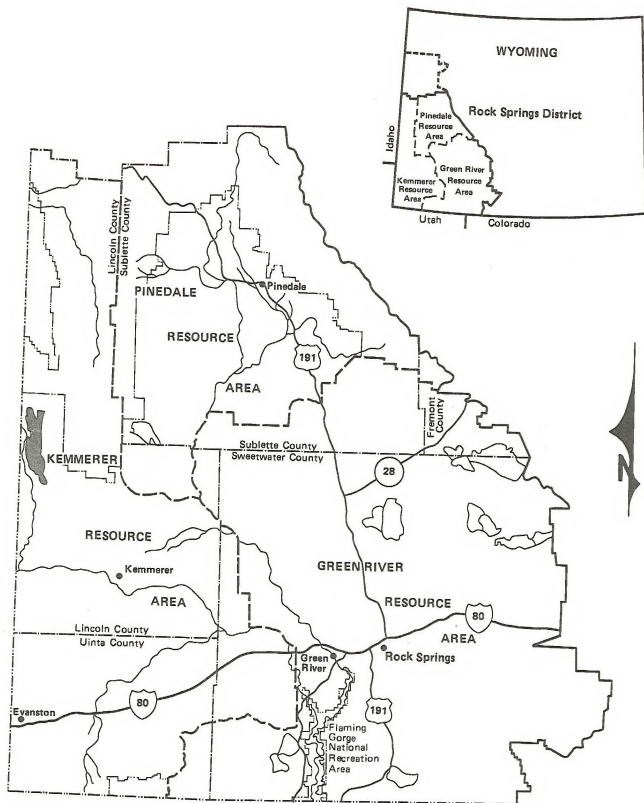
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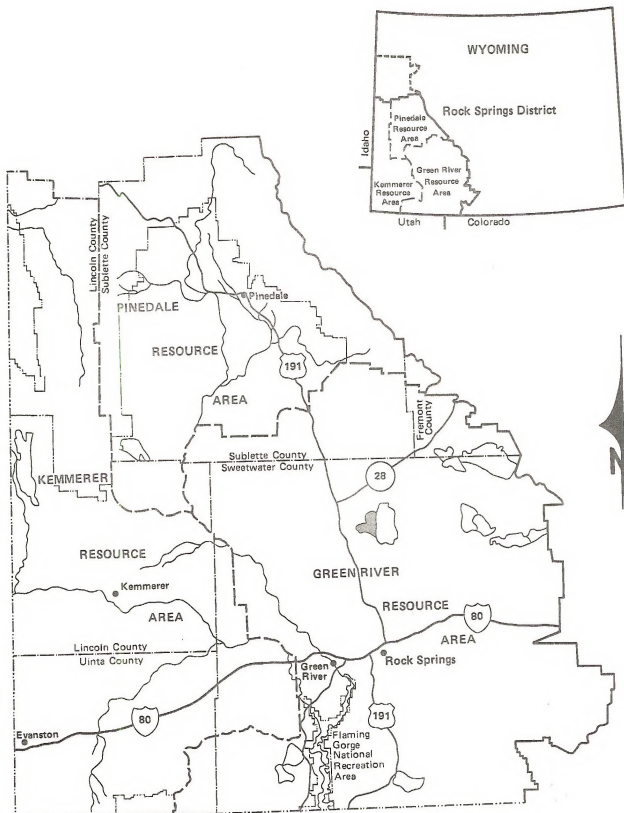
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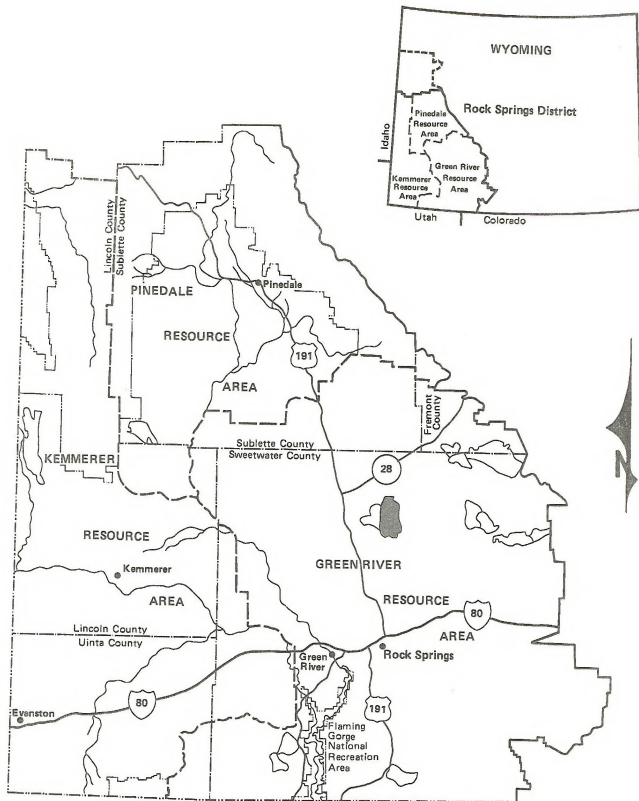
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LAKE MOUNTAIN WSA



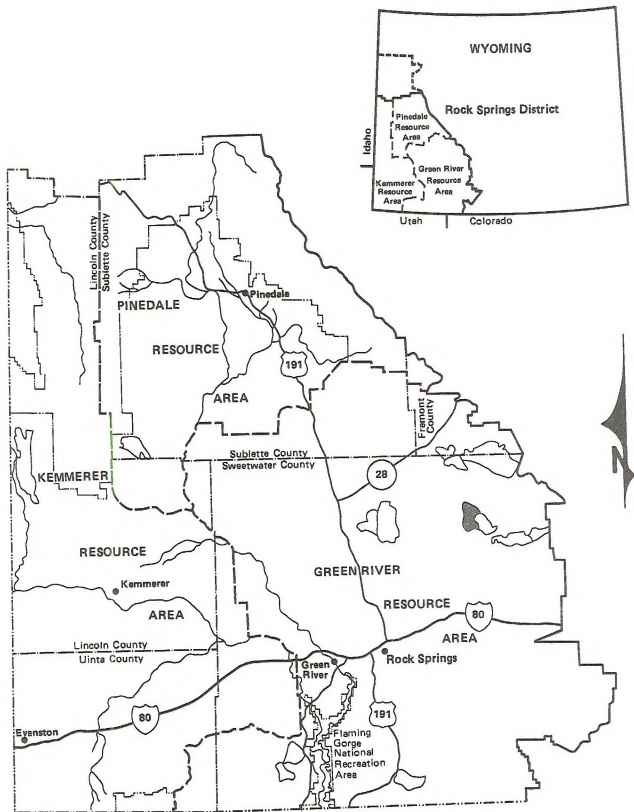
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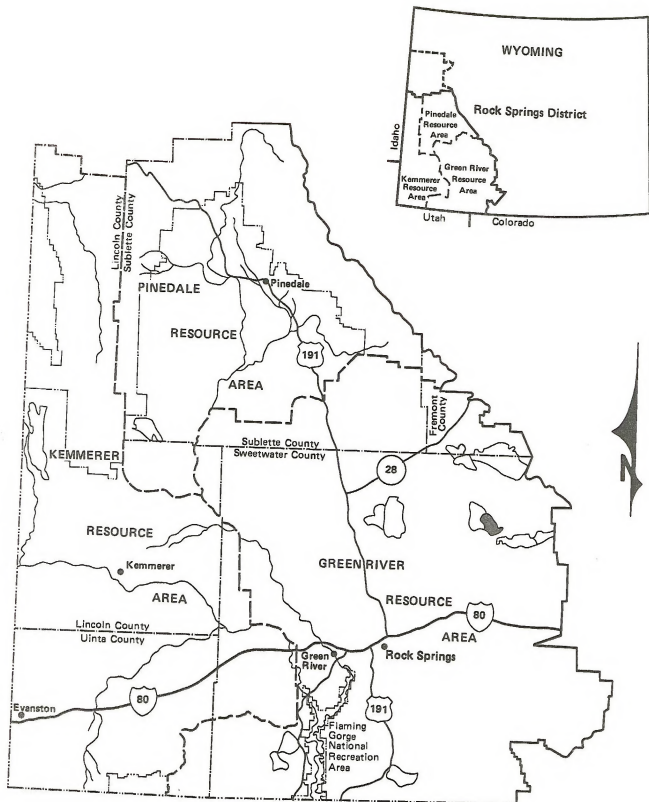
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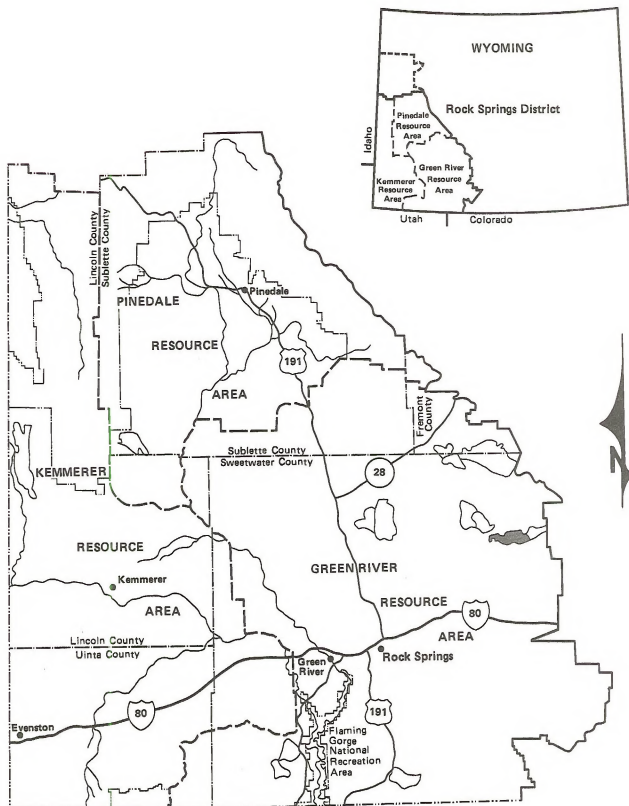
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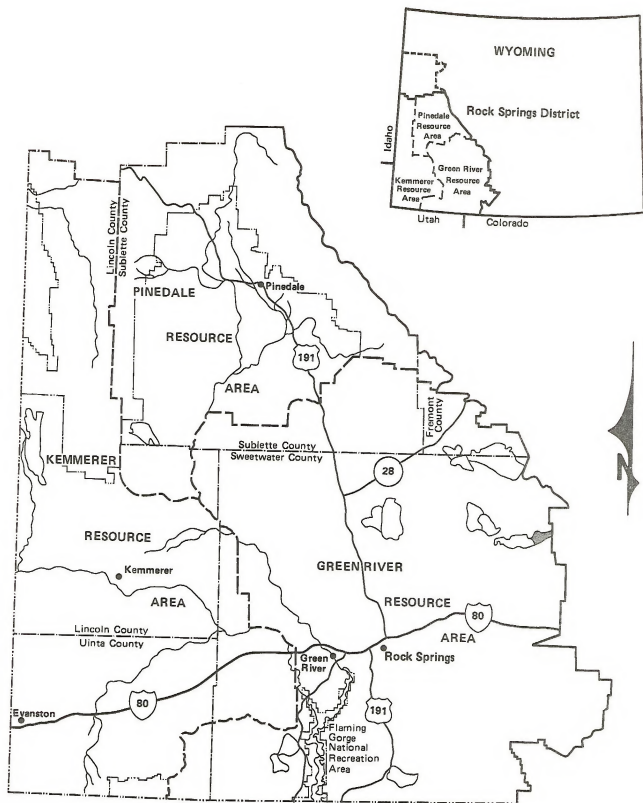
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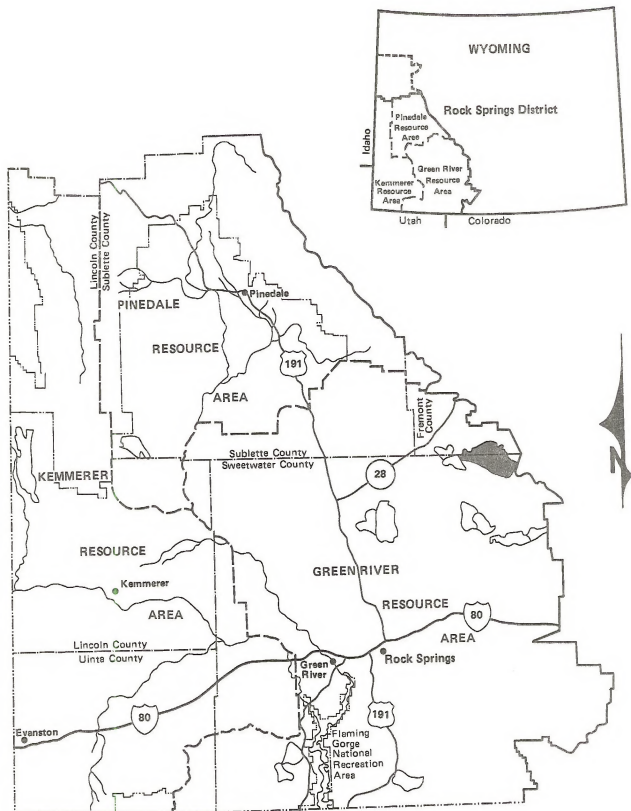
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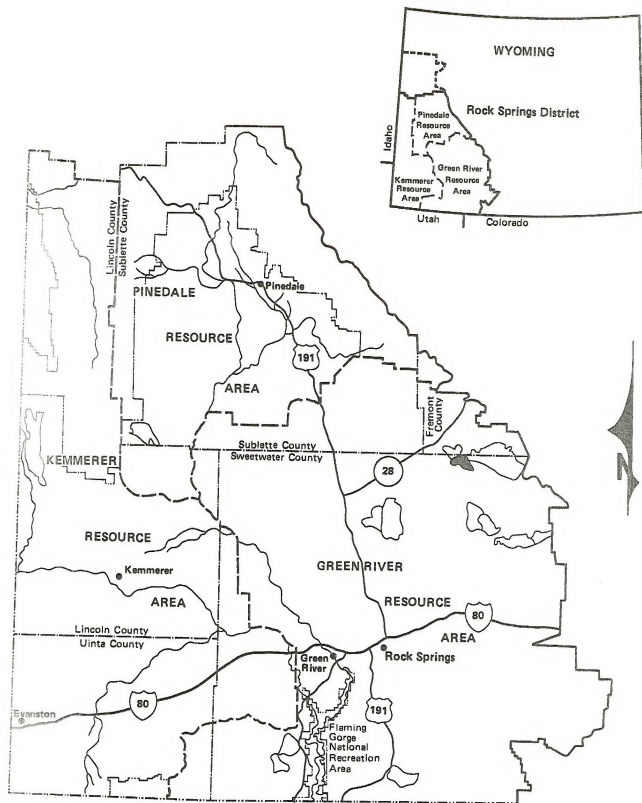
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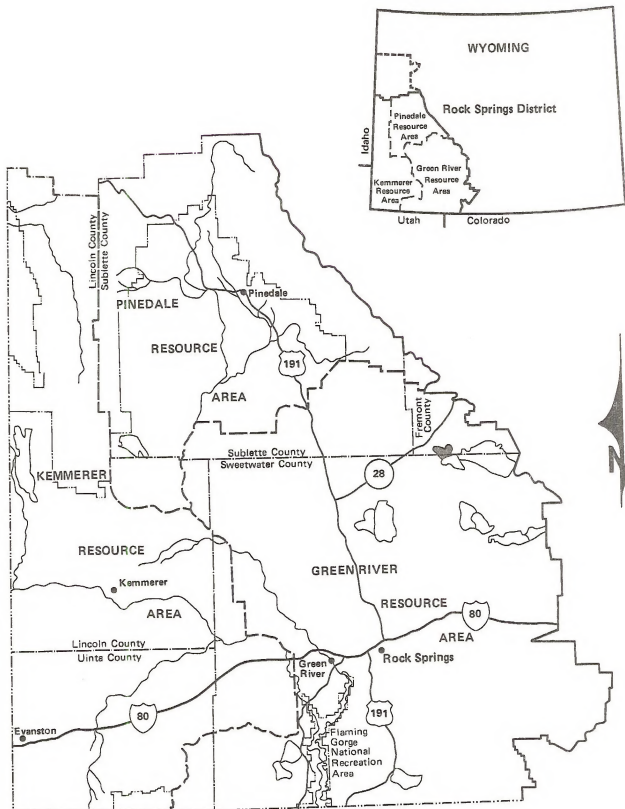
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RED LAKE WSA



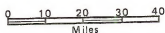
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HONEYCOMB BUTTES WSA

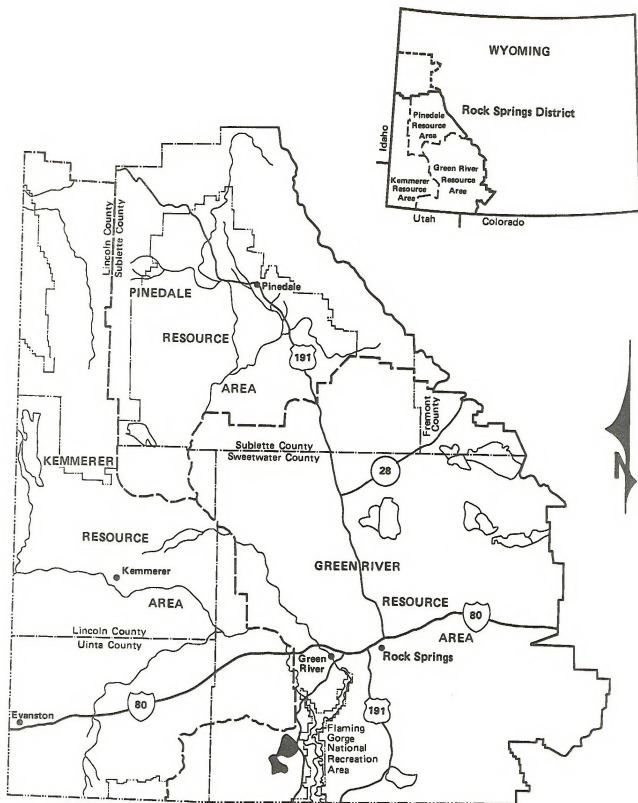


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OREGON BUTTES WSA

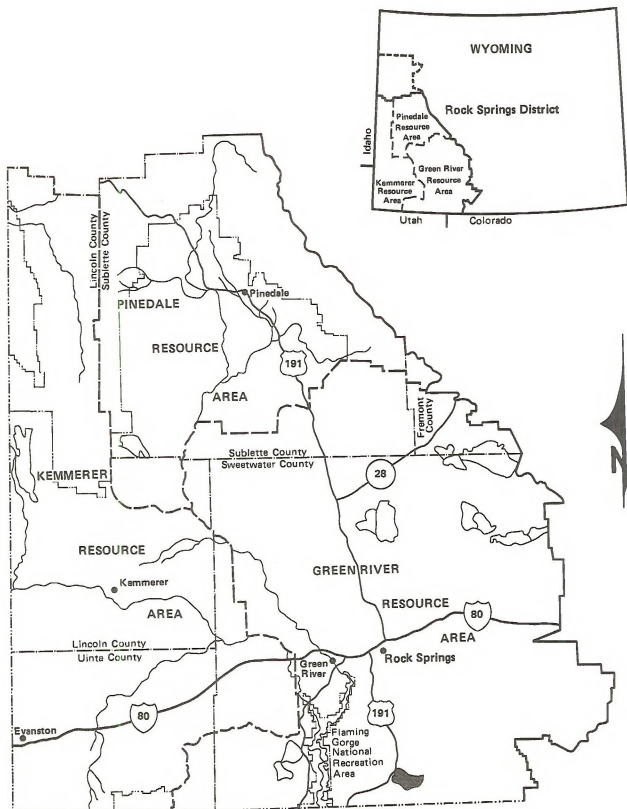


Rock Springs District
Wilderness Environmental Impact Statement
WHITEHORSE CREEK WSA

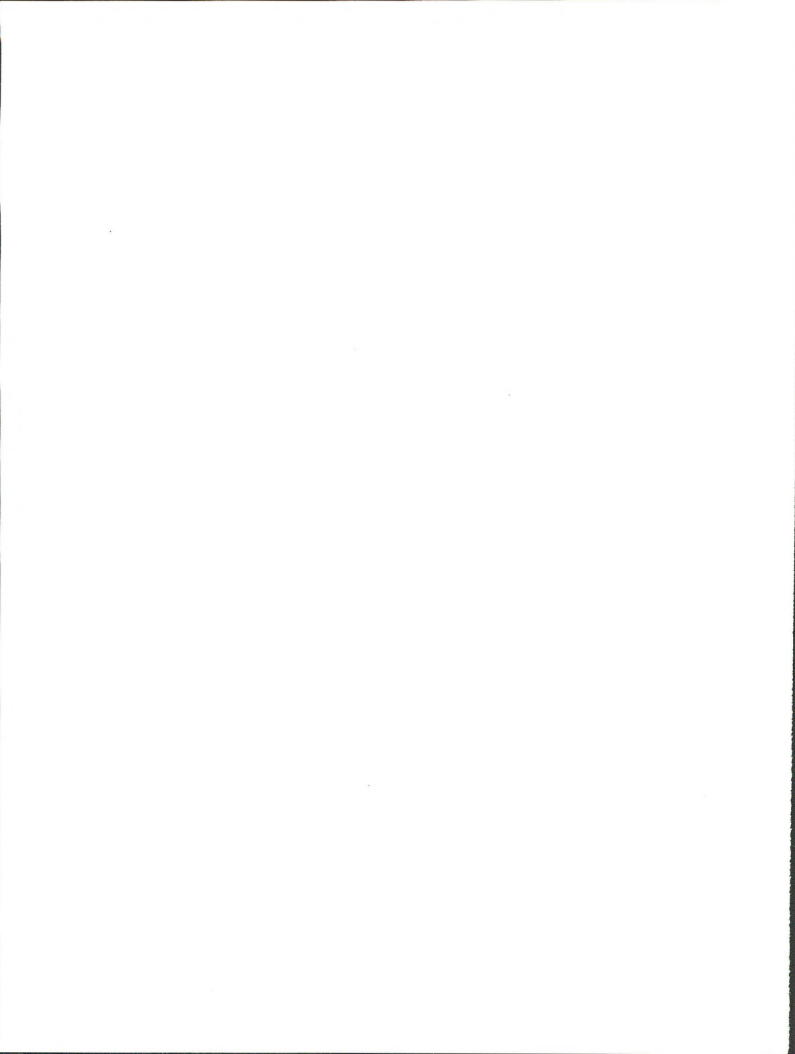




Rock Springs District
Wilderness Environmental Impact Statement
DEVILS PLAYGROUND-TWIN BUTTES WSA



Rock Springs District
Wilderness Environmental Impact Statement
RED CREEK BADLANDS WSA



SUMMARY

INTRODUCTION

This revised draft environmental impact statement (EIS) contains an analysis of the effects of designation or nondesignation as wilderness of 220,922 acres of public land in 13 wilderness study areas (WSAs) in southwest Wyoming. The WSAs are: Lake Mountain, Raymond Mountain, Buffalo Hump, Sand Dunes, Alkali Draw, South Pinnacles, Alkali Basin-East Sand Dunes, Red Lake, Honeycomb Buttes, Oregon Buttes, Whitehorse Creek, Devils Playground-Twin Buttes, and Red Creek Badlands. This EIS was prepared in response to Section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA), which directs the Bureau of Land Management (BLM) to inventory, study, and report to Congress, through the Secretary of the Interior and the President, those public lands suitable for preservation as wilderness.

The format of the revised draft EIS was modified to clarify management actions under wilderness and nonwilderness management for each of the 13 WSAs. These changes are summarized in Chapter 1. The Districtwide analysis that was in the first draft EIS was dropped because, upon review of the first draft EIS, there did not appear to be cumulative effects which would provide needed information pertinent to the recommendation for each individual WSA. The only exception to this is the relationship between the Buffalo Hump and Sand Dunes WSAs, and the railroad bed that separates them. This relationship is described under the Buffalo Hump and Sand Dunes WSAs in this Summary.

AREAS OF CONCERN AND CONTROVERSY

Before the first draft EIS on wilderness was prepared, scoping was conducted to identify significant issues. Areas of concern and controversy were identified on the basis of contacts with organizations, individuals, and federal, state, and local agencies. A public hearing was held on the first draft EIS in March 1983. Comments were received from the public on the first draft EIS.

Of general concern was the potential impact of wilderness designation on mineral exploration and production and on livestock grazing operations. Oil and gas resources were of particular

concern. At the initial stages of scoping, this concern was expressed generally for all 13 WSAs. Specific concern over potential conflicts with oil and gas exploration and development was expressed for the Overthrust WSAs (Lake Mountain and Raymond Mountain) and for the Sand Dunes and Alkali Draw WSAs. There was also general concern over the potential effects of oil and gas activities on wildlife habitat in WSAs which are not designated wilderness.

WILDERNESS SUITABILITY RECOMMENDATIONS

Within the 13 WSAs, 220,922 acres were analyzed to determine the effects of designation or nondesignation of each area as wilderness. Of this acreage, 105,347 acres in 5 WSAs were recommended as suitable for designation as wilderness.

The entire Raymond Mountain WSA (34,456 acres) and the entire Oregon Buttes WSA (5,700 acres) were recommended as suitable. Part of the 10,300-acre Buffalo Hump WSA (6,080 acres), part of the 27,309-acre Sand Dunes WSA (21,184 acres), and part of the 42,044-acre Honeycomb Buttes WSA (37,927 acres) were recommended as suitable.

The following WSAs were recommended as nonsuitable for designation as wilderness: Lake Mountain (13,865 acres), Alkali Draw (17,630 acres), South Pinnacles (10,800 acres), Alkali Basin-East Sand Dunes (12,800 acres), Red Lake (9,515 acres), Whitehorse Creek (4,002 acres), Devils Playground-Twin Buttes (23,841 acres), and Red Creek Badlands (8,660 acres). Part of the Buffalo Hump WSA (4,220 acres), part of the Sand Dunes WSA (6,125 acres), and part of the Honeycomb Buttes WSA (4,124 acres) are not recommended as suitable for designation as wilderness.

The recommendation for the Sand Dunes WSA includes portions of the WSA that were not recommended in the first draft EIS. In addition, there were some additions to the recommended areas for the Proposed Actions for the Buffalo Hump (226 acres) and Sand Dunes (1,254 acres) WSAs. These acres are between the two WSAs but were not included on the acreage figures for either WSA because they are State and private land. The inclusion of these lands would greatly enhance the manageability of the areas as wilderness.

SUMMARY

The analyses for the Sand Dunes and Buffalo Hump WSAs are partially interdependent. When the first draft EIS was prepared, a railroad separated the two WSAs. Since that time, the railroad was removed, leaving a good travelway for motorized vehicles. People currently use this travelway to access both WSAs. For the two WSAs, some alternatives would close the railroad bed to vehicle travel, while others would leave it open. This factor, by itself, has important impacts to wilderness values and recreation use. The Proposed Action is to recommend portions of both WSAs and to close the railroad bed to vehicle travel. If the Proposed Action (or the All Wilderness alternative) is chosen for either WSA, the railroad bed should be closed to vehicle travel to preserve wilderness values in the WSA designated as wilderness.

ALTERNATIVES CONSIDERED

Each WSA was analyzed in a separate site-specific analysis. All Wilderness and No Wilderness alternatives were analyzed in detail for all WSAs. In the revised draft EIS, Partial Wilderness alternatives were analyzed in detail for the Buffalo Hump, Sand Dunes, and Honeycomb Buttes WSAs.

The No Wilderness alternatives for all WSAs assume that the WSA would continue to be managed under multiple use principles applicable under the existing land use plan if the area were not a WSA.

Table S-1 shows a comparison of the alternatives analyzed in detail in this EIS for each WSA. It summarizes the acres recommended as suitable under each alternative analyzed in detail in the site-specific analysis for each WSA.

The alternatives considered and the most important environmental impacts for each WSA are described below.

Lake Mountain WSA

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 13,865-acre Lake Mountain WSA be recommended as suitable for wilderness designation. Nearly all of the WSA's substantial known oil and gas reserves (5,000 to 6,000 BCF of gas) would

be recovered from 10 wells. There would be an associated 105 acres of surface disturbance from this activity. Crucial winter range for big game (especially elk) would be protected through the use of stipulations on oil and gas leases and exploration and development activities. Naturalness and solitude are anticipated to be preserved in much of the 4,200-acre Rock Creek Wildlife Area of Critical Environmental Concern (ACEC). Naturalness and solitude would be lost outside the 4,200-acre ACEC due primarily to oil and gas exploration and development. The protection afforded the ACEC would help to protect the habitat of the Colorado River cutthroat trout. However, continued use of a common use area for moss rock which would remain open, and the harvest of about 85 acres of timber (900,000 board feet) over the next 20 years, would also affect naturalness and solitude outside the ACEC.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 13,865 acres of the Lake Mountain WSA be recommended as suitable for wilderness designation. Naturalness and solitude would be preserved in the entire WSA. Approximately 5,000 to 6,000 BCF of gas would be foregone. Only about 36 BCF of gas would be recovered from one well with an associated 10.5 acres of surface disturbance. Big game numbers would be maintained. The habitat for the Colorado River cutthroat trout would be maintained. No timber would be harvested from the WSA. The common use area for moss rock would be closed.

Raymond Mountain WSA

Proposed Action (All Wilderness)

The Proposed Action would be that all 34,456 acres of the Raymond Mountain WSA be recommended as suitable for wilderness designation. An estimated 39 BCF of gas would not be recovered. No oil and gas wells would be drilled. Water quality would improve slightly due to the elimination of any vehicle activity in the WSA. Habitat for the Bonneville cutthroat trout would be protected. Naturalness and solitude would be maintained. About 100 visitor-days of snowmobile use would be lost 8 out of every 10 years. There would be no loss regionally. Hunting (823 hunter-days annually) and fishing (400 visitor-days annually) in the WSA would remain about the same as current levels. Opportunities for primitive recreation would be enhanced.

SUMMARY

TABLE S-1
PROPOSED ACTION AND ALTERNATIVES

Wilderness Study Area	Total Acres in WSA ¹	Acres Recommended Suitable ¹			
		Proposed Action	Alternative A	Alternative B	Alternative C
Lake Mountain	13,865	0	13,865	-	-
Raymond Mountain	34,456	34,456	0	-	-
Buffalo Hump	10,300	6,080 ²	10,300	0	-
Sand Dunes	27,309	21,164 ³	16,920	27,309	0
Alkali Draw	17,630	0	17,630	-	-
South Pinnacles	10,800	0	10,800	-	-
Alkali Basin -					
Sand Dunes	12,800	0	12,800	-	-
Red Lake	9,515	0	9,515	-	-
Honeycomb Buttes	42,044	37,927	42,044	0	-
Oregon Buttes	5,700	5,700	0	-	-
Whitehorse Creek	4,002	0	4,002	-	-
Devils Playground -					
Twin Buttes	23,841	0	23,841	-	-
Red Creek					
Badlands	8,660	0	8,660	-	-
TOTAL	220,922	105,347			

¹ Total acreage within WSA or area recommended suitable, including federal, private, and state surface.

² This acreage includes only the acreage inside the Buffalo Hump WSA boundary. Additional acreage was considered in the analysis and is explained in the site-specific analysis for the Buffalo Hump WSA. The total, including the additional acreage is 6,306 acres.

³ This acreage includes only the acreage inside the Sand Dunes WSA boundary. Additional acreage was considered in the analysis and is explained in the site-specific analysis for the Sand Dunes WSA. The total, including the additional acreage is 22,438 acres.

Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 34,456-acre Raymond Mountain WSA be recommended as suitable for wilderness designation. An estimated 39 BCF of gas would be recovered from 43 wells with an associated 301 acres of surface disturbance. Habitat protection in the Raymond Mountain Wildlife ACEC would continue to benefit big game and fisheries. Added accessibility from oil and gas activities would increase enjoyment by hunters and anglers. However, some increase in water quality problems could be expected in the short term until reclamation begins to stabilize disturbed areas. In addition to the 301 acres of disturbance due to oil and gas activities, approximately 530,000 board feet of timber (50 acres of Douglas fir) and 50 acres of aspen would be harvested over the next 20 years, affecting naturalness and solitude. Recreational opportunities and use levels would remain about the same in the short term.

In the long term, the greater access created by oil and gas activities would result in greater hunting pressure and ultimately a decrease in hunting quality. Snowmobile use would remain at current levels of 100 visitor-days annually. The quality of the recreation experience would be lower for some users (e.g., picnickers, hikers, photographers, campers, and anglers) due to the greater accessibility leading to a shift toward vehicle-oriented recreation.

Buffalo Hump WSA

Proposed Action (Partial Wilderness)

The Proposed Action would be that 6,080 acres of the 10,300-acre Buffalo Hump WSA plus an adjacent 226 acres outside the WSA be recommended as suitable for wilderness designation (a total of 6,306 acres). There would probably be no oil and gas wells drilled or resources recovered

SUMMARY

because of the low potential. No oil and gas resources would be foregone. Minimal impacts to wildlife are expected. The railroad bed at the eastern boundary of the WSA would be closed to vehicle travel, reducing vehicle access into the area. Solitude and naturalness would be maintained in the area recommended for designation, but would probably be lost in the portion of the WSA not recommended for designation because of continued use of motorized vehicles in that area. The vehicle access currently provided to Buffalo Hump and Sand Dunes WSAs, using the railroad bed, would discontinue. Most existing use is by individuals and groups driving down the railroad bed, stopping at one of several pull-off points, and walking into the area. Some of these people would no longer use the area. There would be little or no effect on recreation activities because of the abundant availability of opportunities near the WSA.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 10,300 acres of the Buffalo Hump WSA be recommended as suitable for wilderness designation. There would probably be no oil and gas wells drilled or resources recovered because of the low potential. No oil and gas resources would be foregone. Wildlife would not be affected. The railroad bed at the eastern boundary of the WSA would be closed to vehicle travel, reducing public access into the area. Protection of wilderness values would be assured. This would help to retain naturalness and solitude in the entire WSA by reducing motorized vehicle use near the WSA. Most existing use of the WSA is by individuals and groups driving down the railroad bed, stopping at one of several pull-off points, and walking into the area. With the closing of vehicle access, some of these people would no longer use the area. There would probably be no overall effect on recreation activities because there remains abundant opportunities for this type of recreation in other areas near the WSA.

Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 10,300-acre Buffalo Hump WSA be recommended as suitable for wilderness designation. The opportunity for oil and gas development would be maintained. There would probably be no oil and gas wells drilled or resources recovered because of the low potential. Minimal impacts to wildlife are expected. Big game would avoid parts of the area when there is motorized vehicle use. Vehicle use probably would not be occurring during crucial periods of big game use. The railroad

bed at the eastern boundary of the WSA would remain open to vehicle travel. This would continue to provide access into the area, for those who use motorized vehicles. Naturalness and solitude would be absent in the entire WSA because of the continued use of motorized vehicles. Most recreational use would be by individuals and groups driving down the railroad bed, stopping at one of several pull-off points, and walking into the area. There would be little or no effect on recreation activities because of the abundant availability of opportunities near the WSA.

Sand Dunes WSA

Proposed Action (Large Partial Wilderness)

The Proposed Action (Large Partial Wilderness) would be that 21,184 acres of the 27,309-acre Sand Dunes WSA and 654 additional acres not included in the original inventory and 600 acres of split estate be recommended as suitable for wilderness designation (a total of 22,438 acres). Approximately 36 BCF of gas and 50,537 BBLS of condensate would be recovered from 10 wells. There would be an associated 70 acres of surface disturbance. An estimated 109 BCF of gas and 154,782 BBLS of condensate would be foregone. Surface disturbance and human intrusions would not be allowed near active dunes and pools of water for environmental reasons. These restrictions would help to maintain naturalness and solitude and maintain wildlife populations even in the area not being recommended as suitable for wilderness designation. The railroad bed at the western boundary of the WSA would be closed to vehicle travel. This closure would reduce public access to the area and probably reduce use by people who previously drove down the railroad bed and walked into the area. The area recommended includes many pools which provide excellent wildlife habitat. The area recommended for designation also includes many active dunes which are highly prized by recreationists who use all-terrain vehicles. However, there is a large "play area" designated as "open" to the east of the WSA which is currently being used. Because of the abundant availability of recreation opportunities in the area, recreation activities would not be significantly affected, although some individuals may have to drive a greater distance to get to the play area. Big game are currently being displaced into the WSA from oil and gas activity that is occurring to the east of the WSA. This displacement provides excellent hunting opportunities in the area recommended as suitable for wilderness designation.

SUMMARY

Alternative (Small Partial Wilderness)

The Small Partial Wilderness Action would be that 16,920 acres of the 27,309-acre Sand Dunes WSA be recommended as suitable for wilderness designation. Potential production from the WSA would be 59 BCF of gas and 83,564 BBLS of condensate from 17 wells, with an associated 119 acres of surface disturbance. An estimated 86 BCF of gas and 121,756 BBLS of condensate would be forgone. The active dunes and most of the pools of water would be protected from surface disturbance, including that from motorized vehicles. Wildlife populations would be maintained. The railroad bed at the western boundary of the WSA would be left open as a travelway. This would maintain existing access into the area and recreation opportunities. The area recommended includes many pools which provide excellent wildlife habitat. The area recommended for designation also includes many active dunes which are highly prized by recreationists who use all-terrain vehicles. However, they currently use a large "play area" designated as "open" to the east of the WSA. Because of the abundant availability of recreation activities in the area, recreation opportunities would not be significantly affected, although some individuals may have to drive greater distances to get to the play area. Big game are currently being displaced into the WSA from oil and gas activity that is occurring to the east of the WSA. This provides excellent hunting opportunities in the area recommended as suitable for wilderness designation.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 27,309 acres of the Sand Dunes WSA be recommended as suitable for wilderness designation. Approximately 3 BCF of gas and 4,337 BBLS of condensate on pre-FLPMA leases would be recovered from one well causing 7 acres of disturbance within the WSA; however, no additional wells would be needed. An estimated 142 BCF of gas and 200,983 BBLS of condensate would be forgone. Designation of the entire WSA would help to protect the crucial wildlife habitat in the WSA and maintain wildlife populations (especially elk). The railroad bed at the western boundary of the WSA would be closed to vehicle travel. This closure would reduce access into the area and would also reduce public use of the area. Naturalness and solitude would be preserved as a result of designation and the closure of the railroad bed to vehicle travel in the western part of the WSA. Naturalness would be preserved in the eastern part of the WSA, but some solitude would be lost as a result of production activities on the existing lease. Be-

cause of the abundant availability of recreation opportunities in the vicinity of the WSA, recreation activities are not expected to be affected. The opportunity for off-road vehicle recreation would be lost in the entire WSA, which contains some dunes of great value to off-road vehicle recreationists. The WSA also includes many pools which provide excellent wildlife habitat. Big game are currently being displaced into the WSA from oil and gas activity that is occurring to the east of the WSA. This provides excellent hunting opportunities in the WSA.

Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 27,309-acre Sand Dunes WSA be recommended as suitable for wilderness designation. An estimated 145 BCF of gas and 205,320 BBLS of condensate would be recovered from 43 wells. There would be an associated 301 acres of surface disturbance. Big game would probably abandon parts of the WSA where oil and gas development occurs and motorized vehicle use is high. The effects of oil and gas development would generally be short term. However, the effects of motorized vehicle use would be recurrent and long term. As the WSA becomes increasingly accessible, solitude and naturalness would be lost. Hunter use would decrease in the eastern part of the WSA first. As oil and gas activity progressed into the WSA, hunter use of the WSA would decrease to about 75 percent of current levels. No additional recreation opportunities would be provided. In the long term, hiking and other nonmotorized recreation activity in the WSA would decrease by 75 to 100 visitor days annually. Some users of all-terrain vehicles may not have to drive as far, if new access to potential use areas is provided north of the WSA. Intensive use of the WSA by off-road vehicles would displace virtually all other users.

Alkali Draw WSA

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 17,630-acre Alkali Draw WSA be recommended as suitable for wilderness designation. An estimated 38.1 BCF of gas and 1,547,892 BBLS of condensate would be recovered from 27 wells with an associated 189 acres of surface disturbance. There would be some displacement of big game due to oil and gas activities. However, because this development is expected to be slow,

SUMMARY

and big game can be accommodated in adjacent areas, big game numbers would not be affected. Hunting is mostly for pronghorn antelope. In the short term, hunting would increase slightly because of additional access provided by oil and gas roads. In the long term, the increased disturbance throughout the WSA would result in hunting returning to approximately current levels. About half of the natural character of the area would be lost due to development and vehicle use. Total recreation use would remain at current low levels.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 17,630 acres of the Alkali Draw WSA be recommended as suitable for wilderness designation. An estimated 6.9 BCF of gas and 278,620 BBLS of condensate would be recovered from 5 wells with an associated 35 acres of surface disturbance. Pre-FLPMA leases cover 2,705 acres of the WSA. An estimated 31.2 BCF of gas and 1,269,272 BBLS of condensate would be foregone. Development on these leases would result in displacement of big game and the loss of naturalness in about half of the WSA. Recreation use associated with motorized vehicles, especially hunting, would be reduced. The loss for nonhunting activities would be 10 visitor days annually and for hunting 30 hunter days annually.

South Pinnacles WSA

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 10,800-acre South Pinnacles WSA be recommended as suitable for wilderness designation. An estimated 24.8 BCF of gas and 902,134 BBLS of condensate would be recovered from 17 wells with an associated 119 acres of surface disturbance. Due to the relatively low success for wells anticipated in the WSA, development is expected to be slow and at low levels of intensity. There would be some loss in big game habitat from the 119 acres of surface disturbance. The direct disturbance is not expected to affect wildlife populations. Wildlife may avoid the area when disturbance is occurring. Most seasonal, stress-related impacts would be mitigated through the use of seasonal stipulations, restricting the timing of oil and gas activities. Solitude and naturalness would be lost for the long term. There would be no effect on recreation activities because recreation use of the WSA is associated mostly with hunting rather than with enjoyment of wilderness

values. Hunting in the WSA would remain near current levels.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 10,800 acres of the South Pinnacles WSA be recommended as suitable for wilderness designation. No oil and gas wells would be drilled and no oil and gas resources would be recovered from the WSA. Oil and gas production foregone would be an estimated 24.8 BCF of gas and 902,134 BBLS of condensate. There would be no effect on wildlife because no oil and gas activity would take place, and motorized vehicles would not be allowed. Naturalness and solitude would be preserved. Hunter use of the WSA would be reduced by about 10 hunter-days annually. Hunting would be displaced to areas near the WSA. The low level of use of the WSA for sightseeing would be reduced because of the closure to motorized vehicles.

Alkali Basin - East Sand Dunes WSA

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 12,800-acre Alkali Basin-East Sand Dunes be recommended as suitable for wilderness designation. An estimated 73.1 BCF of gas and 1,424,763 BBLS of condensate would be recovered from 20 wells with an associated 140 acres of surface disturbance. Because of the relatively low success ratio for wells anticipated, development is expected to take place over a relatively long period of time and be at low intensity. There would be a direct loss of 140 acres of wildlife habitat and some displacement during periods of activity. Seasonal restrictions would help mitigate adverse impacts to wildlife during periods of stress. Adjacent areas are capable of supporting displaced animals; therefore, no change in big game numbers is anticipated. Naturalness and solitude would be lost in the long term. Recreation use would not change, even with the addition of roads associated with oil and gas development.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 12,800 acres of the Alkali Basin-East Sand Dunes WSA be recommended as suitable for wilderness

SUMMARY

designation. Potential oil and gas production foregone is estimated at 73.1 BCF of gas and 1,424,763 BBLS of condensate. No oil and gas wells would be drilled and no oil and gas resources would be recovered. No impacts to wildlife are expected. Naturalness and solitude would be preserved. Only about 50 visitor-days would be lost displacing users from the WSA. Adjacent areas would accommodate the displaced users.

Red Lake WSA

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 9,515-acre Red Lake WSA be recommended as suitable for wilderness designation. An estimated 55.5 BCF of gas and 1,059,109 BBLS of condensate would be recovered from 15 wells with an associated 105 acres of surface disturbance. Because of the relatively low success ratio for wells anticipated, development is expected to take place over a relatively long period of time and be at low intensity. There would be a direct loss of 105 acres of wildlife habitat and some displacement of big game during periods of activity. Pronghorn antelope are the big game animal of concern in this WSA. They would be only slightly affected by the oil and gas development. Seasonal restrictions would help mitigate adverse impacts to wildlife during periods of stress. Hunting use would remain about the same.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 9,515 acres of the Red Lake WSA be recommended as suitable for wilderness designation. No oil and gas wells would be drilled and no oil and gas resources would be recovered. An estimated 55.5 BCF of gas and 1,059,109 BBLS of condensate would be foregone. No impacts to wildlife are expected. Naturalness and solitude would be preserved. There would be no effect on recreation use. The number of visitor days would remain fewer than 200 visitor-days annually.

Honeycomb Buttes WSA

Proposed Action (Partial Wilderness)

The Proposed Action (Partial Wilderness) would be that 37,927 acres of the 42,044-acre Honeycomb Buttes WSA be recommended as

suitable for wilderness designation. An estimated 7.7 BCF of gas would be recovered from 6 wells with an associated 42 acres of surface disturbance, and 56.5 BCF would be foregone. There would be a direct loss of 42 acres of wildlife habitat; this is not expected to affect big game populations. There would be some displacement of big game from the northern part of the WSA when oil and gas activities occur. This would be temporary. Seasonal restrictions would minimize the effects on big game during periods of stress. Solitude and naturalness would be preserved in the area recommended for designation. These values would be lost in the area not recommended for designation. There would be a decrease in hunter use due to displacement of animals in the northern portion of the WSA not recommended for designation. There would be no effect on hunter use in the portion of the WSA recommended for designation. Hunter use in the WSA would remain at the current level of 40 hunter-days annually. The portion of the WSA recommended for designation is adjacent to the Oregon Buttes WSA which is also recommended for designation. While a county road separates the two WSAs, the designation of this portion of the Honeycomb Buttes WSA would enhance the wilderness values in the Oregon Buttes WSA.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 42,044 acres of the Honeycomb Buttes WSA be recommended as suitable for wilderness designation. No oil and gas wells would be drilled and no oil and gas resources would be recovered. An estimated 64.2 BCF of gas would be foregone. No impacts to wildlife, including big game, are expected. Naturalness and solitude would be preserved in the entire WSA. Hunter use would remain the same as current levels (40 hunter-days annually). Other recreation opportunities and use of the WSA would not be affected.

Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 42,044-acre Honeycomb Buttes WSA be recommended as suitable for wilderness designation. An estimated 64.2 BCF of gas would be recovered from 66 wells with an associated 462 acres of surface disturbance. There would be a direct loss of 462 acres of wildlife habitat; this is not expected to affect big game populations. Hunter use would increase in the short term as additional access is provided. In the long term, hunter use would return to current levels. There would be a temporary displacement of big game

SUMMARY

when oil and gas activities occur. Seasonal restrictions would minimize the effects on big game during periods of stress. The quality of the recreation experience for nonhunting recreation would be reduced for up to 75 percent of the 100 visitor-days spent in the WSA annually.

Oregon Buttes WSA

Proposed Action (All Wilderness)

The Proposed Action would be that all 5,700 acres of the Oregon Buttes WSA be recommended as suitable for wilderness designation. No oil and gas wells would be drilled and no oil and gas resources would be recovered. An estimated 8.8 BCF of gas would be foregone. No impacts to wildlife, including big game, are expected. Naturalness would be preserved in the WSA. Hunting for deer and elk and nondeveloped recreation would increase within the WSA (about 20 percent above current levels). The Oregon Buttes WSA is adjacent to the portion of the Honeycomb Buttes WSA which is also recommended for designation. While a county road separates the two WSAs, the designation of the Oregon Buttes WSA would enhance the wilderness values in the Honeycomb Buttes WSA.

Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 5,700-acre Oregon Buttes WSA be recommended as suitable for wilderness designation. An estimated 8.8 BCF of gas would be recovered from 9 wells with an associated 63 acres of surface disturbance. There would be a direct loss of 63 acres of wildlife habitat; this is not expected to affect big game populations. There would be some displacement of big game when oil and gas activities occur. This would be temporary. Seasonal restrictions could minimize the effects on big game during periods of stress. The hunter days spent in the WSA would decrease 25 to 35 percent below current levels due to the big game displacement. There would also be reductions in recreation use levels for nondeveloped recreation in the WSA. There would be a reduction in the quality of the recreation experience for most users of the WSA. The total reduction in recreation in the WSA would be 25 percent below current levels.

Whitehorse Creek WSA

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 4,002-acre Whitehorse Creek WSA be recommended as suitable for wilderness designation. An estimated 6.2 BCF of gas would be recovered from 7 wells with an associated 49 acres of surface disturbance. There would be some displacement of elk in the eastern portion of the WSA (an elk calving area). Seasonal restrictions on oil and gas operations would help to reduce impacts to wildlife during periods of stress (including during calving). No impacts to big game numbers are expected. Naturalness would be protected in the portion of the Oregon Buttes Cultural ACEC that is within this WSA (160 acres). Naturalness and solitude may be lost in the rest of the WSA.

When development takes place, there would be a 50 percent decrease in the number of hunter days spent in the WSA while oil and gas activities are occurring. Other recreation opportunities would not be affected because the use levels in this WSA are small. Activities on private lands and split estate on the boundary of the WSA would adversely affect solitude in most of the WSA.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 4,002 acres of the Whitehorse Creek WSA be recommended as suitable for wilderness designation. No oil and gas wells would be drilled and no oil and gas resources would be recovered. An estimated 6.2 BCF of gas would be foregone. No impacts on wildlife, including big game, are expected. Naturalness would be preserved. Hunter use for deer and elk and nondeveloped recreation use would increase by about 25 percent. Hunter use for pronghorn antelope and sage grouse would remain about the same. Overall recreation use of the WSA would increase by about 20 percent above current levels. About 3 miles of the boundary of this small WSA is adjacent to private land. Split estate (federal surface, State minerals) is on an additional nearly one mile of the boundary of the WSA. Any activity on these lands could adversely affect solitude in most of the WSA because of its small size. The number of hunter days spent in the WSA would remain near current levels.

SUMMARY

Devils Playground - Twin Buttes WSA

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 23,841-acre Devils Playground - Twin Buttes WSA be recommended as suitable for wilderness designation. The opportunity for oil and gas development would be maintained. There are no known recoverable reserves in the WSA. Therefore, no exploration or production is anticipated and no impacts to wildlife or wilderness values are expected. There would be no effect on recreation opportunities.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 23,841 acres of the Devils Playground - Twin Buttes WSA be recommended as suitable for wilderness designation. No oil and gas wells would be drilled and no oil and gas resources would be recovered. No impacts to wildlife are expected. Protection of wilderness values would be assured. There would be no effect on recreation opportunities.

Red Creek Badlands WSA

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 8,660-acre Red Creek Badlands WSA be recommended as suitable for wilderness designation. The opportunity for oil and gas development would be maintained. There are no known recoverable reserves in the WSA. Therefore, no exploration or production is anticipated and no impacts to wildlife or wilderness values are expected. Wilderness and solitude would be preserved. Water quality would continue to improve due to management in the Red Creek Watershed ACEC. There would be no effect on recreation opportunities.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 8,660 acres of the Red Creek Badlands WSA be

recommended as suitable for wilderness designation. No oil and gas wells would be drilled and no oil and gas resources would be recovered. No impacts to wildlife are expected. Protection of wilderness values would be assured. Naturalness and solitude would be preserved. Water quality would improve due to the lack of surface-disturbing activities and the lack of motorized vehicles. There would be no effect on recreation opportunities.

ENVIRONMENTAL IMPACTS

For analysis purposes, it was assumed that State and private lands included in the area recommended for wilderness would be exchanged. This assumption was developed to make it possible to compare alternatives. Without this assumption, the uncertainty surrounding the environmental impacts under wilderness designation would make a comparison of alternatives meaningless. The assumption also enables BLM to make an analysis of the WSAs under complete wilderness management without interactions from other surface owners. If a WSA is designated wilderness, BLM would pursue an exchange of mineral and/or surface rights with the owner.

Under either the Proposed Action or the All Wilderness Alternative for the Buffalo Hump and Sand Dunes WSAs, the decision on whether to leave the railroad bed open to vehicle travel is an important factor in the effort to preserve wilderness values. It also has an important implication for recreation. The alternatives which describe the travelway as closed were developed to analyze the effect on wilderness values if motorized vehicles were prohibited. The No Wilderness Alternative for both WSAs and the smaller Partial Wilderness Alternative for the Sand Dunes WSA were developed under the assumption that the railroad bed would not be closed. This approach gives a range of reasonable alternatives to analyze. If both WSAs are designated wilderness, the railroad bed would be closed to motorized vehicles. If a decision is made to designate only one or neither WSA, BLM would make a decision on whether to close the railroad bed based on the multiple-use management principles. If either WSA is designated, up to the boundary of the railroad bed, it is likely that the bed would be closed to motorized vehicle travel to help preserve wilderness values in the WSA designated.

CHAPTER 1

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

PURPOSE AND NEED

The purpose of the Proposed Action is to identify the public lands in the Rock Springs District, Wyoming, that should be recommended as suitable or unsuitable for wilderness designation. The action is needed to comply with Section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA), which requires an inventory and review of public lands under the jurisdiction of the Bureau of Land Management (BLM) for wilderness potential and a suitability study of public lands with identified wilderness values.

This revised draft environmental impact statement (EIS) is used to help reach recommendations related to wilderness suitability for the 13 wilderness study areas (WSAs). The decisions resulting from this process will constitute plan amendments. The WSAs or portions of WSAs which are not designated wilderness would be managed according to the multiple use guidance reflected in this document and contained in applicable land use plans (see Interrelationships in this Chapter). If designated as wilderness, an area would be managed in accordance with the Wilderness Act of 1964 (16 U.S.C. 1131 et seq., Public Law 88-577, and BLM Wilderness Management Policy).

AREA OF ANALYSIS

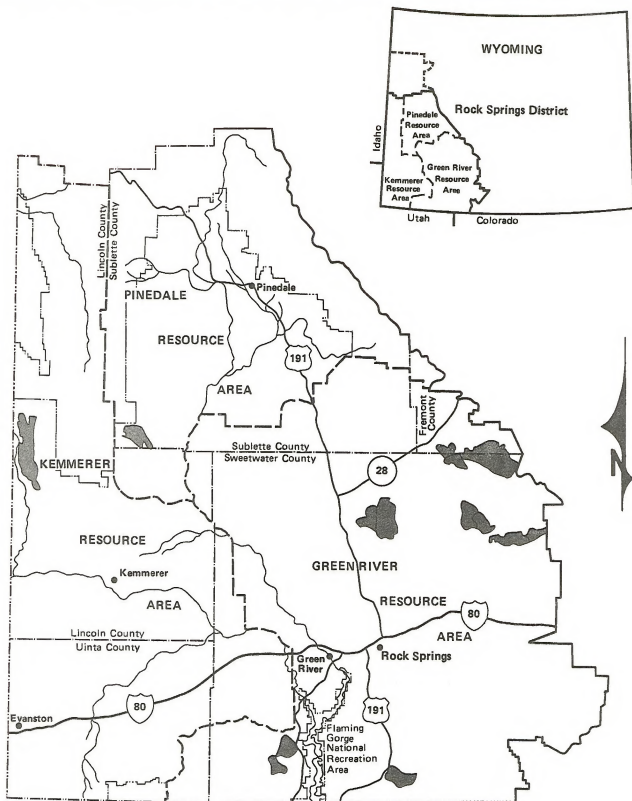
The Rock Springs District includes more than 5.8 million acres of public lands in southwestern Wyoming (Fremont, Lincoln, Sublette, Sweetwater, Teton, and Uinta counties). Seventeen areas, including the Scab Creek Instant Study Area, were found to have sufficient wilderness characteristics to warrant further study. This document addresses the impacts of wilderness designation or nondesignation and subsequent management of 13 WSAs. Map D-1 shows the location of the 13 WSAs.

BACKGROUND

The first draft Rock Springs Wilderness EIS was filed on February 11, 1983. Public comments were considered and the document was revised to respond to the concerns. In the interim, many oil and gas leases, issued before the passage of the Federal Land Policy and Management Act (FLPMA), expired. These changes resulted in a need to review the environmental analysis in the first draft EIS. As a result, the recommendations for 5 WSAs were changed and the document was in need of being substantially modified to clarify the issues, management, and environmental impacts. In additions, new alternatives were developed for 3 of the 13 WSAs. As a result, this document has been prepared and the WSAs or parts of WSAs now being recommended as suitable for wilderness designation under the Proposed Action are shown on Map D-2.

This document is a revised draft EIS for wilderness in the Rock Springs District. Since the changes between the first draft EIS and this document are substantial, those who commented on the first draft EIS should submit comments on this document as well. The only comments that will be considered in the preparation of the final EIS will be the comments received during the public comment period on this revised draft EIS.

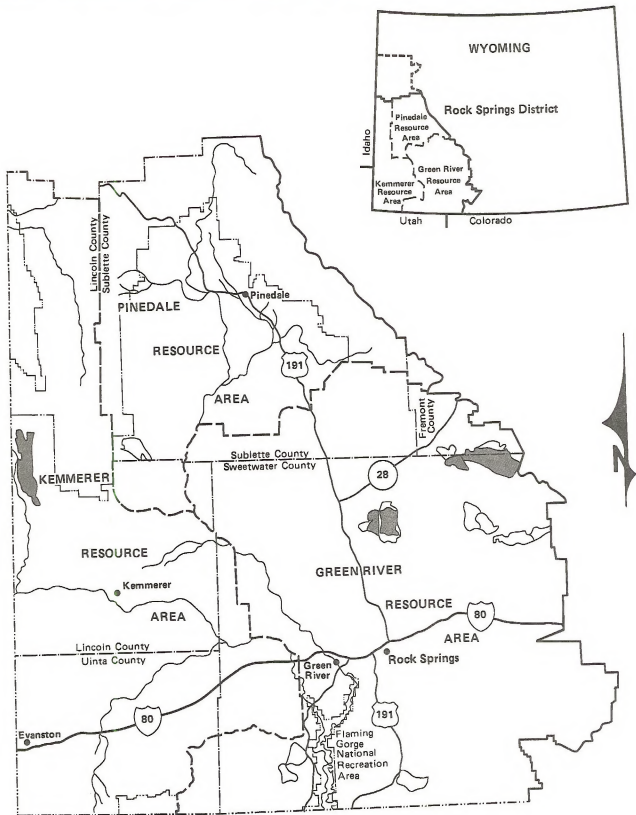
This document is a revised draft EIS (rather than a final EIS) for the following reasons: (1) the expiration of pre-FLPMA oil and gas leases is a substantial change in conditions which affects the environmental analyses and may affect wilderness suitability; (2) new alternatives were developed for 3 WSAs (Buffalo Hump, Sand Dunes, and Honeycomb Buttes); (3) the wilderness recommendations were changed for 5 WSAs (Raymond Mountain, Buffalo Hump, Sand Dunes, Honeycomb Buttes, and Oregon Buttes) since the first draft EIS; (3) the Districtwide analysis in the first draft EIS was dropped; (4) five years passed since the first draft EIS was issued; (5) resource management plans (RMPs) were completed for the



 Wilderness Study Areas

0 10 20 30 40
Miles

Map D-1
GENERAL LOCATION MAP
Rock Springs District Wide
Wilderness Environmental Impact Statement



 Proposed Wilderness Areas



Map D-2
**RECOMMENDED WILDERNESS
 UNDER PROPOSED ACTION**
 Rock Springs District Wide
 Wilderness Environmental Impact Statement

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

Kemmerer and Pinedale Resource Areas changing some aspects of management if the WSAs in those resource areas are not designated wilderness (Raymond Mountain and Lake Mountain WSAs); and (6) a railroad which was removed from between two WSAs (Buffalo Hump and Sand Dunes) changes the impact analyses for those WSAs. These changes result in a need to provide the public with another opportunity to comment prior to preparing a final EIS and making recommendations on wilderness suitability.

The Secretary of the Interior is directed by Congress to review the public lands and to recommend their suitability or nonsuitability for designation as wilderness. The President will review the Secretary's recommendations and alternatives and submit recommendations to Congress. The designation of an area as wilderness requires an Act of Congress.

The wilderness review was conducted in accordance with Section 3(d) of the Wilderness Act of September 3, 1964. In 1978, BLM inventoried public lands to identify areas with wilderness characteristics. The Scab Creek Primitive Area became an Instant Study Area. In 1980, BLM completed the inventory. In 1981, the Scab Creek Study and EIS recommended 7,636 acres as suitable for wilderness. The 1979 inventory of the Overthrust Belt considered 7 units (83,366 acres). Of the 7 units, 5 were dropped from further consideration, leaving 2 WSAs (Lake Mountain and Raymond Mountain) totaling 46,801 acres. Appeals on decisions for Lake Mountain, Raymond Mountain, Coal Creek, and IGO Speedway (4 of the 7 inventory units) were filed with the Interior Board of Land Appeals (IBLA). In 1982, the IBLA supported the decision to drop Coal Creek and IGO Speedway. IBLA decisions supported considering Lake Mountain and Raymond Mountain for wilderness.

The 1980 inventory considered 33 inventory units (424,333 acres). There were 14 consolidated and reduced WSAs (225,780 acres) identified for further study. Appeals to IBLA were filed on decisions for the Sand Dunes and Alkali Draw WSAs. The Sand Dunes appeal was dismissed because the appellant failed to file a statement of reasons. The appeal on Alkali Draw was denied. In May 1981, BLM published a final report (Wyoming Wilderness Study Areas, A Final Inventory Report), which outlines the WSAs selected for study in Wyoming.

In 1982, two small WSAs (East Fork and Mill Creek) adjacent to National Forest lands were removed from further consideration as wilderness. A December 18, 1987, notice (*Federal Reg-*

ister, Vol. 52, No. 243, Page 48160) formally dropped both WSAs from the wilderness review process. This released these areas from the provisions of the Wilderness Interim Management Policy. The Adobe Town WSA was addressed in an EIS prepared by the BLM Rawlins District.

Each WSA was determined to have wilderness characteristics. Section 2(c) of the Wilderness Act defines wilderness as:

"A wilderness, in contrast with areas where man and his works dominate the landscape, is an area where the earth and its community of life are untrammelled by man, and where man is a visitor who does not remain. A wilderness is further defined to mean an area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."

The provisions of FLPMA, the Wilderness Act, and of other acts designating specific BLM-administered areas as wilderness, are BLM's mandates for managing wilderness areas. The Wilderness Management Policy provides guidance for managing designated wilderness areas. If Congress designates a WSA as wilderness, the Interim Management Policy ceases to apply, and the Wilderness Management Policy will be used. If Congress decides that a WSA will not be designated wilderness, the Interim Management Policy ceases to apply, and the area will be managed for uses and activities prescribed in the appropriate land use plan.

The recommendations for each WSA were based on the wilderness suitability criteria (*Federal Register*, Vol. 47, No. 23, 5098-122, February 3, 1982). Decisions recommending wilderness designation are "preliminary suitable recommendations awaiting the results of the Geological Survey and Bureau of Mines mineral surveys." Management of each WSA, if it is not designated wilderness, is shown in each site-specific analysis under the No Wilderness alternative. It is derived from the applicable management framework plan (MFP) or RMP.

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INTERRELATIONSHIPS

BLM Planning

The recommendations reached as a result of this EIS on wilderness will constitute plan amendments to the appropriate land use plans.

The Kemmerer Resource Area completed an RMP in April 1986. Decisions in the Kemmerer RMP specifically addressed nonwilderness management of the Raymond Mountain WSA. The decisions are described under the No Wilderness alternative in the site-specific analysis for the Raymond Mountain WSA. The decisions are the most recent multiple-use decisions if the WSA is not managed as wilderness.

Protests which were received on the RMP and final EIS for the Pinedale Resource Area have been resolved. The plan in the final EIS for the RMP contains the most current multiple-use decisions. The decisions are described under the Proposed Action (No Wilderness) in the site-specific analysis for the Lake Mountain WSA.

The Big Sandy and Salt Wells Resource Areas (now the Green River Resource Area) are covered by an MFP for each of the 11 other WSAs. Non-wilderness management is described under the No Wilderness alternative for each WSA.

A final EIS for the Adobe Town WSA (85,710 acres) was completed in December 1987, by the Rawlins District of BLM (immediately east of the Rock Springs District). The Proposed Action is to recommend the designation of 10,920 acres as wilderness. The remaining 74,790 acres would be available for other multiple-use management. The Adobe Town WSA consists of two WSAs, one of which is in the Rock Springs District and one in the Rawlins District.

Areas of Critical Environmental Concern

Five areas of critical environmental concern (ACECs) in the Rock Springs District affect 7 WSAs: Lake Mountain, Raymond Mountain, Sand Dunes, Buffalo Hump, Oregon Buttes, Whitehorse Creek, and Red Creek Badlands. Under non-wilderness, each WSA would be managed according to multiple-use decisions in the applicable MFP or RMP. The existing ACEC management plan (for the portion of the WSA within an ACEC) would be used unless it is modified by decisions

made in this study process. ACECs are not viewed as an alternative to wilderness. Management objectives for each ACEC were defined and developed based on the values of the individual ACEC.

Potential National Natural Landmarks

Five areas for potential National Natural Landmark status were identified in the Rock Springs District: Henry's Fork Fault Juniper Woodland, the Killpecker Sand Dunes (including Boars Tusk), the Ancient Lake Gosie Sediments (also known as Green River Overlook), Steamboat Mountain, and the Washakie Basin.

The Killpecker Sand Dunes site (41,700 acres) includes portions of the Buffalo Hump and Sand Dunes WSAs. The Steamboat Mountain area (15,840 acres) is located between the Sand Dunes and Alkali Draw WSAs. The National Park Service considers the Sand Dunes ecosystem highly vulnerable, and believes that national natural landmark status would be highly desirable (National Park Service 1979).

The Washakie Basin includes the Adobe Town WSA. Although this area covers 525 square miles, the Park Service feels only parts of it are of potential national natural landmark status. The Park Service rates the vulnerability of the area as moderate to high due to potential mineral exploration and development.

Forest Service

The Bridger-Teton National Forest is adjacent to the Raymond Mountain WSA and Lake Mountain WSA (Map D-1). The adjacent Forest Service lands were studied for wilderness suitability during the Forest Service's RARE II process but were not recommended for wilderness. The Forest Service is preparing a Forest Plan for the Bridger-Teton National Forest. The BLM is a cooperating agency in that effort.

The Flaming Gorge National Recreation Area, managed by the Ashley National Forest, is near the Red Creek Badlands and Devils Playground - Twin Buttes WSAs. Its outstanding recreation opportunities, including boating, waterskiing, fishing, camping, and picnicking, attract thousands of visitors annually. Management of the WSAs for wilderness or nonwilderness would not affect the Flaming Gorge National Recreation Area.

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Geological Survey and Bureau of Mines

In accordance with Section 603(a) of FLPMA, the Geological Survey and the Bureau of Mines will conduct mineral surveys to determine the mineral values, if any, of areas recommended as suitable for wilderness designation.

SCOPING

Issues Analyzed in the EIS

The issues analyzed in the revised draft EIS are summarized in narrative form, by WSA, in this section.

Lake Mountain WSA

The key issue in the Lake Mountain WSA is the potential production of gas resources in the Riley Ridge gas field, and its effect on other resources. Some drainage of the gas resources under the WSA is occurring from wells that were drilled outside of the WSA. The wilderness values and wildlife habitat and populations (primarily elk and Colorado River cutthroat trout) would be adversely impacted by gas field development. The WSA contains the Rock Creek Wildlife ACEC which was designated to protect the habitat of the Colorado River cutthroat trout. Rock Creek has an important population of a pure strain of the trout.

Since the first draft wilderness EIS was issued (1983), the BLM prepared a draft and final EIS on the RMP for the Pinedale Resource Area, taking into account the conflicts in the WSA and surrounding area. The Proposed Action in this EIS describes multiple-use objectives developed during the planning process for the RMP (Proposed Plan).

Raymond Mountain WSA

The key issues in the Raymond Mountain WSA are oil and gas development and its effects on wilderness and wildlife values. Since the first draft EIS was issued (1983), the pre-FLPMA leases which covered most of the WSA have expired. The WSA contains the Raymond Mountain ACEC which was designated, in part, to protect the habitat of the Bonneville cutthroat trout. The Raymond Mountain Wildlife ACEC is a very sensitive area with steep slopes and important perennial

streams. These values conflict with oil and gas exploration and development and forest management activities.

Since the first draft EIS was issued, the BLM prepared an RMP for the Kemmerer Resource Area, taking into account conflicts between oil and gas exploration and development and other resources and resource uses. The No Wilderness Alternative in this revised draft EIS describes the multiple-use objectives developed during the planning process for the RMP and some of the stipulations to be included in oil and gas leases to implement those objectives.

Buffalo Hump WSA

The key issues in the Buffalo Hump WSA are the conflicts of oil and gas exploration and development with wilderness values, off-road vehicle (ORV) recreation, and grazing. Part of the Buffalo Hump WSA is in the Greater Sand Dunes Recreation ACEC. The WSA contains a unique desert elk herd and important habitat for various species of birds. Oil and gas activity could cause these animals to abandon the area. The oil and gas potential was re-evaluated and was determined to be low in the Buffalo Hump WSA.

A railroad formed the eastern boundary of the WSA. Since the first draft EIS was issued (1983), the rails and ties were removed, leaving the railroad bed intact. This left a good travelway into a previously inaccessible part of the WSA. All of the pre-FLPMA leases in the WSA have expired. This resulted in the development of a Partial Wilderness Alternative for the Buffalo Hump WSA, taking in the eastern portion of the WSA (adjacent to the Sand Dunes WSA) and proposing to make the railroad bed impassible to reduce adverse impacts to wilderness values.

Sand Dunes WSA

The key issues in the Sand Dunes WSA were the conflicts between oil and gas exploration and development, off-road vehicle use, and wildlife habitat and populations. Part of the Sand Dunes WSA is in the Greater Sand Dunes Recreation ACEC. ORV enthusiasts use areas adjacent to the WSA. Oil and gas facilities (including pipelines) may pose safety hazards to off-road vehicle (especially all-terrain vehicle) users. The WSA contains a unique desert elk herd and important habitat for various species of birds. Human disturbance associated with oil and gas exploration and development, ORV recreation, and human presence are important concerns. The preservation of the unique active dunes was also an important concern.

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A railroad formed the western boundary of the WSA. Since the first draft EIS was issued (1983), the rails and ties were removed, leaving the railroad bed intact. This left a good travelway into a previously inaccessible part of the WSA. Almost all of the pre-FLPMA leases have expired. As a result of these factors and public comment on the first draft EIS, wilderness values and BLM's ability to manage the Sand Dunes WSA as wilderness were re-analyzed. This resulted in the development of a second, larger Partial Wilderness Alternative for the Sand Dunes WSA, taking in more of the western and southern portions of the WSA (adjacent to the Buffalo Hump WSA) and proposing to make the railroad bed impassible to reduce adverse impacts to wilderness values.

Alkali Draw WSA

The key issues in the Alkali Draw WSA are oil and gas exploration and production. Approximately 15 percent of the WSA is covered by pre-FLPMA oil and gas leases. Most of these are located in the western and southwestern portions of the WSA. Additional exploration is likely, especially in the western and southwestern portions of the WSA, although the success rate for wells drilled in the area is not very high.

South Pinnacles WSA

The key issues in the South Pinnacles WSA are oil and gas exploration and production. There is little topographic relief in the WSA. This would cause any development that takes place to have an adverse impact to the area's wilderness values.

Alkali Basin - East Sand Dunes WSA

The key issues in the Alkali Basin - East Sand Dunes WSA are oil and gas development and the unique values in the WSA. There are many large sand dunes, draws, and ridges in the southern half of the WSA which provide screening and add to the solitude and naturalness one can experience in the WSA. Oil and gas exploration and development would adversely affect these values.

Red Lake WSA

The key issues in the Red Lake WSA are oil and gas exploration and development and the natural and wildlife values in the WSA. The WSA provides a good opportunity to study active sand dunes, their movements, and how they are stabilized. However, the WSA is relatively flat and distur-

ances would be seen throughout the WSA. Pronghorn antelope and wild horses are important in the WSA. Oil and gas exploration and development would affect the sand dune ecosystem, and the naturalness and solitude in the area. It would also displace mule deer and pronghorn antelope.

Honeycomb Buttes WSA

The key issues in the Honeycomb Buttes WSA are oil and gas exploration and development, placer gold mining in the northern and western portions of the WSA, wildlife habitat especially for elk and deer, and the unique character of the buttes themselves. Elk use the south-central portion of the WSA during the winter. Raptor habitat in the WSA is excellent due to the availability of suitable nesting sites. Golden eagles, prairie falcons, great horned owls, and ferruginous hawks have been observed in the WSA. The WSA contain deposits of agate, jade, and petrified wood. It also provides opportunities for unconfined recreation (e.g., nontechnical climbing, caving, hiking, and photography). Visibility from the WSA is excellent, providing scenic vistas of the Wind River mountain range (to the north) and the Uinta Mountains (to the south). Oil and gas exploration and development would adversely affect scenic values and would displace big game.

Oregon Buttes WSA

The key issues in the Oregon Buttes WSA are oil and gas exploration and production and wildlife habitat, especially for elk. The WSA contains many seeps which display wet meadow and important elk calving habitat used by the unique desert elk herd. The Oregon Buttes WSA is between the Honeycomb Buttes WSA (to the east) and the Whitehorse Creek WSA (to the northwest). The Oregon Buttes WSA contains part of the Oregon Buttes Cultural ACEC. Raptor habitat in the WSA is excellent (prairie falcons and red-tailed hawks). Petrified wood is abundant in the WSA. The buttes were a major landmark for travelers on the Oregon Trail (7 miles north of the WSA). There are also cultural values in the ACEC (e.g., tipi rings). Currently, the major uses of the Oregon Buttes WSA are for hunting and dispersed recreation.

Whitehorse Creek WSA

The key issues in the Whitehorse Creek WSA are oil and gas exploration and development and wildlife habitat. Part of the area is a calving area for the Sands elk herd. It is adjacent to the Oregon

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Buttes WSA. The Whitehorse Creek WSA is only 4,002 acres in size but was retained for further study because of its values and its proximity to the Oregon Buttes and Honeycomb Buttes WSAs. The Whitehorse Creek WSA contains part of the Oregon Buttes Cultural ACEC. The WSA is currently used for some nonmotorized recreation, including hunting. It contains deposits of petrified wood, agate, and fossils of snails and clams.

Devils Playground - Twin Buttes WSA

The key issues in the Devils Playground - Twin Buttes WSA are oil and gas exploration and development. Fossil deposits and evidence of early man are abundant in the WSA. The WSA is adjacent to the Pine Springs Cultural ACEC (80 acres) which was designated to protect cultural resources. There are a number of prehistoric tipi ring sites within the WSA (dated approximately 2,500 and 1,500 years ago). Oil and gas exploration and development are not expected to adversely affect cultural resources in the WSA because cultural resource surveys would be required before any surface disturbance would be allowed. However, any surface-disturbing activities could inadvertently disturb cultural resources if they were not detected during the survey. Current information does not indicate any unique cultural resources in the WSA. The WSA provides yearlong habitat for mule deer and pronghorn antelope. Oil and gas exploration and development would result in some displacement of these big game species. The tipi rings found in and around the WSA are unique in this part of Wyoming.

During preparation of this revised draft EIS, potential production for oil and gas was re-evaluated. Based on current data and past exploration, no production is expected from the WSA. The revised draft EIS analyzes the environmental consequences based on this finding.

Red Creek Badlands WSA

The key issues in the Red Creek Badlands WSA are an existing sedimentation and erosion problem and Red Creek's contribution of salinity to the Colorado River system. Surface-disturbing activities, such as those associated with oil and gas development and off-road vehicle use, may worsen sedimentation problems. Concern for the sedimentation problem led to the designation of the Red Creek watershed as an ACEC. Virtually all of the WSA (8,500 acres) is within the much larger ACEC (59,532 acres).

Issues Considered But Not Analyzed in the EIS

Several concerns were determined not to be issues because they would not affect or be effected by wilderness or nonwilderness management. These are: air quality, cultural resources, social and economic resources, geology and topography, land use, noise, paleontological resources, and threatened and endangered species. None of the WSAs contain alluvial valley floors, prime and unique agricultural lands, or existing or potential wild and scenic rivers. Other issues are analyzed for only some of the WSAs. For example, water quality and related issues were analyzed for the Lake Mountain, Raymond Mountain, and Red Creek Badlands WSAs but not for the other WSAs. These issues were considered for all WSAs but were not analyzed if they were not an issue.

Cultural and paleontological resources were not analyzed because, if surface-disturbing activity takes place in an area, the site-specific concerns addressed at that time would mitigate potential impacts to such resources. Surveys would be conducted prior to the authorization of any surface-disturbing activities. The results of these surveys would be used to modify surface-disturbing proposals to avoid or minimize potential impacts to these resources. However, inadvertent disturbances may occur. Cultural and paleontological resources in the WSAs are not considered unique. Therefore, the potential for inadvertent damage to these resources was not determined to be an issue to be addressed in this EIS.

Cultural and paleontological resource values are also protected by the National Historic Preservation Act (NHPA) and the Archaeological Resource Protection Act (ARPA). Sections 106 and 110 of NHPA outline procedures for agency management of these resources. Proposed actions and BLM management activities and plans must comply with these and other legal mandates.

Other activities (e.g., those which do not require a BLM permit), such as motorized vehicle use may adversely affect cultural and paleontological resources if vehicles are used off designated roads and trails. Under nonwilderness, WSAs would be designated "limited" for motorized vehicle use, limiting motorized vehicle use to existing roads and trails. Motorized vehicle activity which takes place off existing roads is illegal. Pothunting, which may adversely affect cultural resources, is illegal and would not be allowed

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either under designation or under nondesignation. Because of the illegal nature of these activities, they were not considered to be factors important to a decision on wilderness suitability.

Threatened and endangered species were not expected to be affected by the decision on wilderness designation. Wilderness designation would preserve wilderness values in an area. The habitat of threatened or endangered species would be preserved and protected from disturbance. When an area is not designated wilderness, BLM's permitting process for surface-disturbing activities would prevent adverse impacts to threatened and endangered species. Although some WSAs contain mining claims, activities associated with locatable minerals are not expected in any of the WSAs. Therefore, no adverse impacts to threatened and endangered species are expected.

Social and economic resources were not analyzed because it was felt that oil and gas drilling would take place in the vicinity of a WSA if it could not take place in the WSA. Due to the availability of leased land surrounding WSAs, industry would not be prevented from exploring or developing resources in the region. They would move their efforts to nearby areas. This would result in little or no change in the availability of jobs or oil and gas revenues to the State and counties.

A general assumption for the analysis is that if development does not take place within a WSA, it would take place in the vicinity of the WSA. If a WSA is not leased, it is likely that a similar level of oil and gas exploration and development would occur elsewhere. This would result in a similar amount of surface disturbance and increased erosion. Mitigation measures would be designed to minimize any increased erosion and sedimentation in the WSAs, as well as elsewhere in the Rock Springs District. The WSA where this factor is most important is in the Red Creek Badlands WSA where unstable soils make erosion and sedimentation a concern. However, upon analysis, the likelihood of oil and gas development in this WSA is low. Therefore, this issue was not analyzed in the site-specific analyses for the WSAs.

Alternatives Considered But Not Analyzed in the EIS

Management based on outdated MFPs was determined to be unreasonable because it would not meet the needs for managing the resources. Some of the decisions have been implemented or modified. New policy decisions were implemented in some instances. For example, ACECs have been designated, a new grazing policy (national level) was adopted, and ORV management has been implemented.

Lake Mountain WSA

A partial wilderness alternative for the Lake Mountain WSA was considered, but eliminated because of the (1) steep slopes, (2) lack of existing roads, (3) limited to existing roads and trails designation, and (4) other resource concerns which would exclude surface-disturbing activities from the ACEC under nonwilderness (e.g., streams and cutthroat trout). Wilderness values would be mostly preserved in the ACEC even under nonwilderness. The impacts of designating the smaller acreage as wilderness would be little difference from those examined under nonwilderness.

Raymond Mountain WSA

Early in the process, the Raymond Mountain ACEC was considered as a partial wilderness alternative. During scoping, this alternative was dismissed and the larger area (now the WSA) was analyzed. A partial wilderness alternative, the designation of the ACEC as wilderness, would protect wilderness values in the ACEC. The need to have a well-defined boundary which could be managed as wilderness would not be met if the ACEC were designated wilderness.

The Raymond Mountain ACEC is characterized by (1) steep slopes, (2) a lack of existing roads, (3) a "closed" designation for motorized vehicles, and (4) other resource concerns which would exclude surface disturbing activities from the ACEC (e.g., streams and cutthroat trout). According to the recently completed Kemmerer Resource Management Plan, leases in the ACEC would contain a stipulation restricting surface occupancy within $\frac{1}{4}$ mile of perennial streams. This restriction, and the elimination of timber harvesting from the ACEC, would preclude most surface-disturbing activities from the ACEC. Most wilderness values would be preserved in the ACEC, even under nonwilderness. The main difference between nondesignation and designation, in the ACEC, would be the elimination of snowmobiling under designation. A partial wilderness (designating only the Raymond Mountain ACEC) would not provide any substantial difference between Partial Wilderness (designation of the ACEC) and No Wilderness. Therefore, a partial wilderness alternative was not analyzed.

Buffalo Hump WSA

A Partial Wilderness Alternative (6,306 acres recommended for designation) was developed between the draft and revised draft EISs. This alternative was developed for two reasons. The oil

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and gas potential in the WSA was re-evaluated and was found to be low. This estimation of the oil and gas potential also affected a portion of the Sand Dunes WSA adjacent to the Buffalo Hump WSA. The railroad tracks were removed from between the Buffalo Hump and Sand Dunes WSAs.

These two factors indicated a need to re-examine the analysis and recommendations for the Buffalo Hump and Sand Dunes WSAs. No additional alternatives were considered for the Buffalo Hump WSA.

Sand Dunes WSA

In the Sand Dunes WSA, the need for a modified boundary was apparent since the WSA encompassed active, producing oil and gas fields. In part of the WSA, there were pre-FLPMA leases held by production that were very likely to result in additional production. In other portions of the WSA (western part), the potential for oil and gas was lower. One of the wilderness suitability criteria required that BLM address energy conflicts. This resulted in the development of the Partial Wilderness alternative analyzed in the first draft EIS. A larger Partial Wilderness alternative was considered in the draft EIS but was dismissed because of the existence of pre-FLPMA leases. Since the first draft EIS was released, railroad tracks were removed from between the Sand Dunes and Buffalo Hump WSAs. This changed portions of the impact analysis related to the impacts of noise on the area.

These two factors indicated that another reasonable alternative should be developed and analyzed in the revised draft EIS. Between the draft and revised draft EISs, a larger Partial Wilderness Alternative was developed and analyzed.

Alkali Draw WSA

Approximately 18 percent of the Alkali Draw WSA is covered by pre-FLPMA leases, mostly in the western and southwestern portions of the WSA. No partial alternatives were considered for the Alkali Draw WSA because of the topography of the area, the man-made influences, and the dispersed nature of the pre-FLPMA leases. There is nothing unique in any particular portion of the WSA. Partial Wilderness would not avoid or substantially mitigate this conflict. A partial wilderness alternative would result in a loss in naturalness and solitude similar to the No Wilderness Alternative because of the greater than 2,700 acres of pre-FLPMA leases in the WSA. It was determined that the two alternatives examined in the

first draft EIS (All Wilderness and No Wilderness) adequately examine the range of reasonable alternatives.

South Pinnacles WSA

No partial alternatives were considered for the South Pinnacles WSA because of the topography of the area and the man-made influences. There is little topographic relief in this WSA. No portion of the WSA contains any wilderness values different than those of the WSA as a whole. Nor does any portion of the WSA pose any management concerns not present in the rest of the WSA. These factors do not provide an opportunity to identify and analyze a reasonable Partial Wilderness alternative for the South Pinnacles WSA.

Alkali Basin - East Sand Dunes WSA

No partial alternatives were considered for the Alkali Basin - East Sand Dunes WSA because of the size and narrow configuration of the area. No portion of the WSA contains any wilderness values different than those of the WSA as a whole. Nor does any portion of the WSA pose any management concerns not present in the rest of the WSA. There is nothing unique in any particular portion of the WSA that would make it beneficial to manage a portion of the area as wilderness. For these reasons, a partial wilderness alternative was not developed for the Alkali Basin - East Sand Dunes WSA.

Red Lake WSA

A partial wilderness alternative was not considered for the Red Lake WSA because of the size and topography of the area. No portion of this small WSA contains wilderness values different than those of the WSA as a whole. Nor does any portion of the WSA pose any management concerns not present in the rest of the WSA.

Honeycomb Buttes WSA

No additional alternatives were considered for the Honeycomb Buttes WSA. A Partial Wilderness Alternative was developed between the first draft EIS and this revised draft EIS. It was developed because the northern portion of the WSA (4,117 acres) contained more intrusions than the rest of the WSA and because some of the supplemental and outstanding values of the WSA were less apparent in the northern portion of the WSA. The 4,117 acres removed from the northeast portion

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of the WSA does not contain the multicolored, eroded buttes that are an important part of the wilderness values of this WSA. The new northern boundary is a two-track trail which would have constituted another intrusion into the WSA if the entire WSA were designated wilderness. The boundary excludes a 40-acre parcel of private land which required a "cherrystemmed" road for access. This new Partial Wilderness Alternative has become the Proposed Action.

Oregon Buttes WSA

A partial wilderness alternative was not considered for the Oregon Buttes WSA because of the steep topography and small size of the area (5,700 acres). The Oregon Buttes ACEC was considered early in the process as a Partial Wilderness but its small size (3,360 acres in the Oregon Buttes WSA and 160 acres in the Whitehorse Creek WSA) made this partial wilderness alternative unreasonable. A two-track trail separates the 160 acres in the Whitehorse Creek ACEC from the larger portion of the ACEC in the Oregon Buttes WSA. An important part of the value of the WSA is the historic vista associated with the view of the buttes. This would make smaller areas of lesser value because much of the historical context would be lost with a smaller protected area.

Whitehorse Creek WSA

During the intensive inventory, the Whitehorse Creek WSA was reduced from 6,690 acres to 4,028 acres of public land by removing areas in the eastern portion of the unit that included several two-track trails, old seismic lines, and a parcel in the northern portion that was isolated by two-track trails. The WSA was reduced to under 5,000 acres after the intensive inventory. It was retained for further study because it is adjacent to the Oregon Buttes WSA, separated by a two-track trail. The WSA contains a variety of habitat types (aspen and pine groves; high, sheer sandstone cliffs; and an area of badland topography). These values, combined with the small size of the Whitehorse Creek WSA, do not provide an opportunity to identify and analyze a reasonable Partial Wilderness alternative.

In addition, over two miles of the northern boundary and about one mile of the eastern boundary of the WSA is adjacent to private lands. Activities on these private lands could easily intrude into the WSA; solitude in could be lost in much of the WSA because of its small size.

Devils Playground - Twin Buttes WSA

No additional alternatives were considered for the Devils Playground - Twin Buttes WSA. The WSA contains numerous two-track trails that have apparently received recent use. These make the development of a partial wilderness alternative difficult. No one part of the WSA has characteristics that make it stand out from the rest of the WSA.

Red Creek Badlands WSA

A partial wilderness alternative was not considered for the Red Creek Badlands WSA because no portion of WSA contains any wilderness values different than those of the WSA as a whole. Nor does any portion of the WSA pose any management concerns not present in the rest of the WSA. Virtually all of the WSA (8,500 acres) is within the much larger Red Creek Watershed ACEC (59,532 acres). This factor, in combination with the relatively flat terrain, makes the identification and analysis of a partial wilderness alternative for the Red Creek Badlands WSA unreasonable.

Changes Since the First Draft EIS

The changes between this document and the first draft EIS are substantial, those who commented on the first draft EIS should submit comments on this document as well. The only comments that will be considered in the preparation of the final EIS will be the comments received on this revised draft EIS.

Some changes reflected in this document are responsive to public comments on the first draft EIS. Other changes were made to reflect the management for each WSA more specifically, and to make the site-specific analyses more accurate and easier to follow. As a result, there are changes to the Proposed Action which are relevant to environmental concerns. Such changes precipitated the need for a revised draft EIS to be issued in order to comply with the Council on Environmental Quality's (CEQ) Regulations for Implementing the National Environmental Policy Act [40 CFR 1502.9(c)(1)]. Therefore, this document is being issued as a revised draft EIS.

The expiration of pre-FLPMA leases constitutes a significant new circumstance in light of the requirements of CEQ's NEPA regulations [40 CFR 1502.9(c)(1)]. Since the first draft EIS was prepared, pre-FLPMA leases in most WSAs

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expired. All leases not held by production have expired. This changed the impact analysis under All Wilderness for all the WSAs and for Partial Wilderness in the Buffalo Hump, Sand Dunes, and Honeycomb Buttes WSAs. These changes are reflected in the site-specific analysis for each WSA.

Five years have elapsed since the first draft EIS was issued. This indicates that the public should be provided another opportunity to comment on the Proposed Action and draft EIS.

The suitability recommendations for 5 WSAs (Raymond Mountain, Buffalo Hump, Sand Dunes, Honeycomb Buttes, and Oregon Buttes) have changed. Some changes were made because pre-FLPMA leases expired between the draft and revised draft EISs. Expiration of these leases reduced the impacts that would occur under designation. There would be no valid existing rights for oil and gas; therefore, no surface disturbance due to these activities would be expected. BLM would be better able to protect the wilderness and other values in the WSA (if it is designated) than when the draft EIS was published.

The districtwide analysis (which was in the first draft EIS) is not included in the revised draft EIS. The summary table (Table S-1) illustrates a comparison of alternatives for each WSA. Cumulative impacts can be determined for a combination of alternatives (for designation or nondesignation of each WSA) directly from the narratives.

The discussion on manageability of each WSA as wilderness was deleted from this EIS. The discussions will be updated and included in the Wilderness Study Report for each WSA. The Wilderness Study Reports are felt to be a more appropriate place to discuss manageability. However, under the Proposed Action for the Buffalo Hump and Sand Dunes WSAs, acreage in a relatively small parcel was added to each WSA to improve manageability.

The format for the site-specific analyses was changed to provide a clearer description of the way each WSA would be managed under each alternative. This description served as a basis for revising the impact analyses to reflect changes that have taken place since the first draft EIS.

Since the first draft EIS, the recommendations were changed for: the Raymond Mountain WSA (from nonsuitable to suitable of the entire WSA); the Buffalo Hump WSA (from nonsuitable to suitable of 6,306 acres); and for the Sand Dunes WSA (from suitable for 16,920 acres to suitable for 21,184 acres within the WSA). The recommendations for the Buffalo Hump (Partial Wilderness) and Sand Dunes (Larger Partial Wilderness) WSAs are new alternatives. The recommendation

for the Honeycomb Buttes WSA was changed from All Wilderness (42,044 acres) to the new Partial Wilderness (37,927 acres). The recommendation for the entire Oregon Buttes WSA (5,700 acres) was changed from nonsuitable to suitable. The reasons for these changes are described for each WSA under Issues Analyzed in the EIS in this chapter.

The impact analyses for the Buffalo Hump and Sand Dunes WSAs make assumptions about whether the railroad bed (from which the rails were removed) would be closed to motorized vehicles. These assumptions are important because they affect the impact analyses, especially for wilderness values and recreation opportunities. If one or both of the WSAs are not designated wilderness, using the railroad bed as a boundary, a decision would be made concerning the use of motorized vehicles. Since the analysis reflects a finding that a closure would help preserve wilderness characteristics in either WSA (if they were designated wilderness), the railroad bed would be closed to motorized vehicles if either WSA is designated wilderness using the bed as a boundary.

ASSUMPTIONS AND ANALYSIS GUIDELINES

1. Under the No Wilderness Alternative for each WSA, applicable land use plans were used to determine the kinds of activities allowed under nondesignation. These plans include MFPs and RMPs. For the Lake Mountain WSA, the Proposed Plan in the final EIS for the Pinedale Resource Area RMP was used because it provides the most likely management if the area is not designated wilderness.
2. The impacts of future development were based on mineral potential and existing commitments, such as pre-FLPMA leases, that would affect a WSA.
3. The federal government will not purchase or use other means to acquire or retire pre-FLPMA oil and gas leases within wilderness areas. Discoveries on pre-FLPMA leases would be produced within a WSA boundary, rather than by directional drilling from outside the WSA boundary. This results in a situation where it is assumed that pre-FLPMA leases would be subject to surface disturbance due to oil and gas exploration and development. (This assumption is continued from the first draft EIS. Since the acreage covered by pre-FLPMA leases is greatly reduced due to the expiration of pre-FLPMA leases, this assumption applies only in the Lake

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Mountain, Sand Dunes, and Alkali Draw WSAs where there are pre-FLPMA leases.) The cessation of oil and gas activity on pre-FLPMA leases, under wilderness management, would not occur until after oil and gas resources were recovered.

4. In most WSAs, it was assumed that one oil and gas well would be drilled per 640 acres in the WSA. The Lake Mountain WSA, where more current and specific information is available, is an exception to this assumption. The Raymond Mountain Wildlife ACEC, within the Raymond Mountain WSA, is another. The distribution of the oil and gas resource was assumed to be constant across the entire WSA, except as noted in a site-specific analysis. The potential magnitude of impacts was determined using these assumptions. Using these standardized assumptions for analysis purposes, the number of wells anticipated under any alternative depends on the acreage available for surface-disturbing activities.
5. The potential likelihood of impacts is a related but separable measure of potential impacts. Success ratios for oil and gas activities were estimated by using existing information on success ratios of nearby oil and gas wells. For some WSAs, portions of the WSA were more likely to be the targets of oil and gas exploration and development than other portions (likelihood). When this is the case, the site-specific analysis reflects the difference. The calculation for potential production foregone is based on a percentage of the acreage of the WSA that would be recommended for designation as wilderness and which would not be subject to production (magnitude).
6. Construction, drilling, and other intensive human activity would result in a greater degree of displacement of big game than producing wells. Therefore, short-term impacts would generally be greater than long-term impacts. Elk would be most adversely affected (with a potential to be displaced up to one mile from human activity), followed by mule deer. Pronghorn antelope would be least affected by human activity.
7. The number of miles of existing roads considered in the site-specific analysis for each WSA was estimated from recent maps. In some WSAs, there are additional trails that are usable for motorized vehicles. The number of miles of these trails was not included in the analysis. These trails are not important factors in terms of long-term maintenance of naturalness. That is, if a WSA is designated wilderness, these trails would approximate their natural condition in the long term.
8. Visitor use data were not available for most of the WSAs. Where such data were not available, estimates were developed for analysis purposes. Most users (75 to 100 percent) would be regional residents.
9. Exchanges for State inholdings within WSAs designated as wilderness would be sought and would consider mineral values to ensure the State does not lose revenues. Private inholdings would be treated similarly. For analysis purposes, it was assumed that inholdings entirely within WSAs would be exchanged if an area is designated wilderness. This affected acreage figures and levels of disturbance from oil and gas operations to varying degrees. State and private lands and minerals on the boundaries of WSAs were not included in acreage calculations, except in the case of the Buffalo Hump (Partial Wilderness) and Sand Dunes (Large Partial Wilderness) WSAs.

The acquisition of State and private land or mineral rights within areas designated as wilderness may be time consuming and costly. However, for the purpose of the environmental analysis, these costs were not taken into account. In some cases, private land is chertemmed outside of a WSA boundary. This would eliminate the need for acquisition as the alternative is described. The acreage that may need to be acquired is identified for each alternative.
10. The elimination of any of the 5 ACECs affecting WSAs was not considered part of the No Wilderness or Partial Wilderness alternatives because the values for which the ACECs were designated continue to require management attention focused on the resources for which the ACEC was designated.
11. Stipulations would be placed on oil and gas leases to protect other resources. Currently, new leases are issued with the "Wyoming BLM Standard Mitigation Measures for Surface Disturbing Activities." These measures would be used to condition approvals for surface-disturbing activities including Applications for Permits to Drill (APDs) and rights-of-way. The wording of the restrictions may change, but the objective of protecting other resources would continue. Exceptions to these stipulations may be approved on a case-by-case basis, subject to an analysis of how a particular action would affect the resources which the stipulation is intended to protect. The primary objective will be the protection of the resource identified in the stipulation, not the enforcement of a particular restriction.

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These mitigation measures, which would be in the form of stipulations on new oil and gas leases, include restrictions on surface disturbance activities. They are effectively performance stipulations, where an applicant can request an exception which would allow operations to proceed if it can be demonstrated that operations could be conducted in a manner that acceptably protects the resource which the stipulation was designed to protect. These stipulations include restriction on surface disturbance:

- On slopes in excess of 25 percent
- Within important scenic areas
- Within 500 feet of surface water and/or riparian areas
- Within ½ mile or the visual horizon of historic trails
- Using frozen materials or during periods when soil is saturated, or when soil is saturated
- During crucial periods for wildlife (e.g., in winter range, calving areas)

- To protect nesting habitat of raptors and sage and sharp-tailed grouse during the nesting period

- To protect sage/sharp-tailed grouse breeding grounds, and/or other species' important activities

- To protect threatened or endangered species

- To protect cultural resources

- To protect other specific important resource values not covered by other stipulations

- Within ½ mile of perennial streams (Raymond Mountain Wildlife ACEC)

If resource values are sufficiently important, a No Surface Occupancy restriction may be placed on oil and gas leases. This is the most stringent restriction and would be used when other mitigation is not sufficient to protect important resource values. A waiver or exception of this stipulation must be accompanied by either an EA or an EIS, and must not be inconsistent with the planning decision that imposed the restriction. If a waiver is inconsistent with the planning decision, a plan amendment would be needed.

CHAPTER 2

SITE-SPECIFIC ANALYSES

INTRODUCTION

Alternatives were developed for each wilderness study area (WSA). As a result of the analysis, a proposed action recommendation for each WSA was developed. Table S-1 summarizes the acreage recommended as suitable and unsuitable for designation as wilderness under each alternative analyzed in detail. A total of 105,347 acres in 5 WSAs is being recommended as suitable for wilderness designation (see Map D-2). There are 34,456 acres in the Raymond Mountain WSA; 6,080 acres in the Buffalo Hump WSA; 21,184 acres in the Sand Dunes WSA; 37,927 acres in the Honeycomb Buttes WSA; and 5,700 acres in the Oregon Buttes WSA recommended as suitable for designation as wilderness. Wilderness designation is not recommended on 115,575 acres of the WSAs in the Rock Springs District; including 4,220 acres in the Buffalo Hump WSA, 6,125 acres in the Sand Dunes WSA; 4,117 acres in the Honeycomb Buttes WSA; and all public lands in the other 8 WSAs.

Areas designated by Congress as wilderness would be managed under the provisions of the Wilderness Act of 1964, the BLM Wilderness Management Policy, and applicable regulations. These provisions would enhance and protect each area's wilderness values by prohibiting or limiting uses that conflict with wilderness management; valid existing rights would be assured and, where applicable, certain nonconforming uses could be allowed.

Each WSA was analyzed individually in a site-specific analysis. The Proposed Action and alternatives for each WSA are within each site-specific analysis. In some cases, the alternatives include only All Wilderness and No Wilderness alternatives. In other cases, partial wilderness was analyzed. The discussion of districtwide aggregate alternatives in the first draft EIS was dropped from this document. The alternatives for each of the 13 WSAs are listed separately.

LAKE MOUNTAIN WSA

Summary Description and Background

The Lake Mountain WSA is in the Wyoming Range portion of the Overthrust Belt of western Wyoming. It contains irregular steep-sided ridges, ranging in elevation from 7,400 feet to over 9,600 feet. Four main drainages are found within the WSA. Rock Creek, near the center of the WSA, contains a population of Colorado River cutthroat trout designated "rare" by the Wyoming Game and Fish Department and "sensitive" by the BLM. It is one of 6 streams in western Wyoming which contain the trout. The WSA is important elk winter range for one of the last naturally wintering elk herds in the upper Green River Basin. Map LM-1 portrays the boundary of the 13,865-acre WSA. A 40-acre parcel of private land and a road leading to it are cherrystemmed outside of the WSA. The WSA is one of two in the Wyoming portion of the Overthrust Belt.

Proposed Action and Alternatives

The two alternatives analyzed in detail were: 1) that no acreage in the 13,865-acre WSA be recommended as suitable for wilderness designation, and 2) that all 13,865 acres be recommended as suitable for wilderness designation.

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 13,865-acre Lake Mountain WSA be recommended as suitable for wilderness designation. Oil and gas leasing would resume in the WSA. It is anticipated that 10 wells would be drilled,

SITE-SPECIFIC ANALYSES — LAKE MOUNTAIN WSA

resulting in 105 acres of surface disturbance. Motorized vehicles would be limited to existing roads and trails in most of the WSA. There would be a seasonal closure to all motorized vehicles to protect elk crucial winter range in an area which includes the entire WSA. The number of acres affected by this closure will be determined following the completion of an ongoing study, not associated with the wilderness decision. The 4,200 acres of the Rock Creek Wildlife Area of Critical Environmental Concern (ACEC) would be closed to motorized vehicles.

Oil and Gas Management

Oil and gas activity on pre-FLPMA leases held by production, which occupy 600 acres in the WSA, would continue to be allowed. Activity would be subject to applicable surface protection restrictions to protect other resources in the entire WSA (e.g., seasonal stipulations, steep slope restrictions, restrictions on surface disturbance near live water, requirements to maintain cover for big game at or above crucial levels, reclamation, etc.). The gas produced would be "sour" gas containing toxic hydrogen sulfide (H_2S). The gas would be transported through the Riley Ridge gas field (to the north) to the Shute Creek gas processing plant in Lincoln and Sweetwater counties, Wyoming.

Oil and gas leasing in 4,200 acres of the Rock Creek Wildlife ACEC within the WSA would resume with a No Surface Occupancy stipulation. Leasing in the remaining 9,665 acres of the WSA would resume with a No Surface Occupancy stipulation until completion of a study to identify, more precisely, the portions of the area that are used as crucial winter range. After the study is completed, oil and gas leases on the crucial winter range would be issued with seasonal stipulations, restricting oil and gas activities during the winter on the crucial winter range. Oil and gas leases in the area that are not found to be crucial elk winter range would be issued with less restrictive stipulations (e.g., no construction on steep slopes, unstable soils, within a certain distance of live water).

It is projected that a total of 10 wells would be drilled in the WSA, resulting in approximately 105 acres of surface disturbance from well pads, production facilities, and access roads. The estimate is based on an assumption that surface disturbance would be allowed in the WSA outside of the Rock Creek Wildlife ACEC, consistent with the objective of protecting the elk winter range and other restrictions placed on the leases. The estimate is derived from experience with oil and gas development in the area. Typically, wells drilled into the Madison Formation in the vicinity of the

WSA drain upwards of 1,400 acres. The cumulative impacts of all activities on cover for big game would be considered prior to authorizing drilling.

Approximately 5,000 to 6,000 BCF of gas would be produced from the WSA.

Solid Minerals Management

The common use area for moss rock (195 acres in the WSA and 165 acres outside of the WSA) would remain open in Long Hollow (southwestern portion of the WSA). The area contains approximately 8,000 tons of available material. Use of this area would not be allowed during crucial winter periods for big game. Mineral extraction for salables would not be allowed in the Rock Creek Wildlife ACEC. No activity related to leasable minerals is anticipated. The area would remain open to locatable minerals but, because there are no known locatable minerals in the WSA, no activity is anticipated.

Off-Road Vehicle Management

The Rock Creek drainage (approximately 4,200 acres of the 5,264-acre Rock Creek Wildlife ACEC) would be closed to motorized vehicles. There are currently no roads in the drainage. Recreational motor vehicle use in the remaining 9,665 acres of the WSA would be limited to existing roads and trails. There are five roads and trails scattered around the WSA. About 10 miles of new roads may be constructed to develop the oil and gas resources.

A seasonal off-road vehicle (ORV) closure (approximately 13,000 acres), including over-the-snow vehicles, to protect elk crucial winter range (November 15 to April 30) would continue to be implemented on a larger area which includes the entire WSA. The number of acres affected by this closure would be determined following the completion of an ongoing study, not associated with the wilderness decision. The area is closed during normal and severe winters, and open during mild winters.

Recreation Management

When the area is open, there are approximately 100 to 200 visitor-days of snowmobiling annually.

Hunting would be allowed but hunters would not be allowed to use motorized vehicles in the Rock Creek drainage or off existing roads and trails in the remainder of the WSA. Current hunting use of the WSA is about 725 hunter-days. About 300 hunter-days are spent by hunters who pack in using horses. The remainder are spent by

SITE-SPECIFIC ANALYSES — LAKE MOUNTAIN WSA

hunters using vehicles. Rock Creek would continue to be closed to fishing by the Wyoming Game and Fish Department.

There are undeveloped campsites along the LaBarge Creek boundary of the WSA. They are used as hunting camps in the fall and by anglers during the summer. No facilities related to recreation are planned in the WSA.

Grazing Management

Grazing management practices (Fox-Yose and Upper North LaBarge grazing allotments) would not change from those currently in place. The Fox-Yose allotment is currently in the "M" or maintain management category. The Upper North LaBarge allotment is currently in the "I" or improve management category. Within the Lake Mountain WSA, the estimated carrying capacity is 1,210 AUMs for cattle, with use occurring from May 15 to September 30. There are eight range improvements and two enclosures (along Rock Creek) in the WSA. Both allotments are under allotment management plans. One spring development would be implemented at the head of Rock Creek for range and wildlife purposes. This spring development, involving less than one acre, would be within the Rock Creek Wildlife ACEC. It would be constructed and maintained without using motorized vehicles. Motorized vehicles would be allowed outside the ACEC, in connection with range management actions, but would be limited to existing roads and trails.

Wildlife Management

Approximately 4,200 acres of the Rock Creek Wildlife ACEC (5,264 acres) are in the Lake Mountain WSA. The ACEC will continue to be managed to protect the habitat of the Colorado River cutthroat trout. The ACEC management plan provides guidance that excludes surface-disturbing activities in the Rock Creek drainage. The ACEC would continue to be closed to motorized vehicles. This would help to protect the aquatic habitat and help to ensure the Colorado River cutthroat trout does not become endangered. The seasonal closure to motorized vehicles in the crucial winter range would be enforced during normal and severe winters when elk use the crucial winter range. This would help reduce the disturbance to wintering elk caused by snowmobiles.

Special management attention would be focused on the winter range for the last naturally-wintering population of elk. The objective of resource management in the crucial winter range (13,000 acres in the WSA) would be to maintain the habitat and populations of elk at least at cur-

rent levels. Various types of use authorizations would be conditioned with seasonal restrictions to protect elk habitat on crucial winter range. The maintenance of cover ratios in connection with oil and gas and forestry activities would be an important concern. Prescribed burning of sagebrush/grass vegetation would be used to help improve elk winter range on approximately 200 acres in the eastern portion of the WSA. The burning would be designed to simulate a natural burn.

Existing stream enclosures would be maintained, although some relocation of fences may be necessary to reduce annual maintenance costs. Maintenance would be accomplished without the use of motorized vehicles.

Forestry Management

Based on the Proposed Plan in the Final Pine-dale Resource Management Plan, approximately two-thirds of the forested acreage in the Lake Mountain WSA would be managed for production of forest products with strong emphasis on maintaining wildlife cover levels. The remaining one-third (the Rock Creek drainage) would be excluded from all forest management activities. Activity would not be allowed in the Rock Creek drainage.

Forestry operations would be conducted to maintain cover ratios for elk and would take place in a single year. Human presence due to forestry operations would affect elk in that year. Elk would begin to move back into the area after the logging operations have stopped. Oil and gas operations would continue to affect big game throughout the 30-year period of production. The probability of production from oil and gas wells in the WSA is very high. Therefore, any well drilled is likely to go into production and have some effect on elk until production stops.

Actions in the portion of the WSA available for forest management activities would include timber harvesting, utilization of other forest products (Christmas trees, firewood, etc.), tree thinning, and reforestation. Actual harvest levels have not been allocated to the WSA; however, the Pine-dale RMP allocates a harvest level of approximately 953 acres during the next 20 years from the Deadline - Pinegrove forest management unit (FMU), of which the Lake Mountain WSA is a part (approximately 25 percent). The Deadline - Pinegrove FMU contains 15,448 acres of conifer and 3,520 acres of woodland (mostly aspen). Forest management activities in the Deadline - Pinegrove FMU would be subject to surface management restrictions to protect other resources. Approximately 85 acres would be harvested and 900,000 board feet of timber would be produced

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over 20 years, along with some firewood and Christmas trees. There would probably be an additional 5 acres of surface disturbance for access roads.

The Bridger-Teton National Forest, which is in the vicinity of the Lake Mountain WSA, produces approximately 20 million board feet of wood products annually.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 13,865 acres of the Lake Mountain WSA be recommended as suitable for wilderness designation. There would be no oil and gas leasing in the WSA. There would be one well drilled on pre-FLPMA leased acreage, resulting in 10.5 acres of surface disturbance. Motorized vehicles would be prohibited. A 40-acre parcel of private land and a road are cherrystemmed from the WSA boundary.

Oil and Gas Management

Unleased lands (13,265 acres) would not be offered for lease. Oil and gas activity on pre-FLPMA leases, which occupy 600 acres, would be allowed subject to applicable surface protection stipulations (e.g., seasonal stipulations, reclamation, etc.) to protect other resources. One well would be on the pre-FLPMA leased acreage in the northeast portion of the WSA, resulting in 10.5 acres of surface disturbance. The 10.5 acres of surface disturbance would include the surface disturbance due to the construction of access roads and other facilities related to oil and gas production. This is in the Graphite Unit of the Riley Ridge gas field. The gas produced would be sour gas and would be transported through the Riley Ridge gas field to the Shute Creek gas processing plant.

Approximately 36 BCF of gas would be produced from existing leases. Approximately 5,000 to 6,000 BCF of gas would be foregone because no new leases would be issued.

Solid Minerals Management

The 195 acres of common use are for moss rock within the WSA would be closed (54 percent of the 360-acre common use area).

Off-Road Vehicle Management

Motorized vehicles would be prohibited in the WSA. Motor vehicle use would not be allowed for maintenance of range improvements.

Recreation Management

The WSA would be managed to provide primitive, nonmotorized recreation. Vehicle dependent recreation use would not be allowed. When the area is closed during normal and severe winters, approximately 100 to 200 visitor-days annually would be displaced. Hunting would be allowed, but hunters would not be permitted to use motorized vehicles. No facilities associated with recreation would be constructed.

Grazing Management

As under the Proposed Action, grazing management practices (Fox-Yose and Upper North LaBarge grazing allotments) would not change from those currently in place except that motorized vehicles would not be allowed in conjunction with grazing operations. The Fox-Yose allotment is currently in the "M" or maintain management category. The Upper North LaBarge allotment is currently in the "I" or improve management category. Within the Lake Mountain WSA, the estimated carrying capacity is 1,210 AUMs for cattle, with use occurring from May 15 to September 30. There are eight range improvements and two exclosures (along Rock Creek) in the WSA. Both allotments are under allotment management plans. One spring development would be implemented at the head of Rock Creek for range and wildlife purposes. This spring development, involving less than one acre, would be within the Rock Creek Wildlife ACEC. It would be maintained without using motorized vehicles.

Wildlife Management

Approximately 4,200 acres of the 5,264-acre Rock Creek Wildlife ACEC are in the Lake Mountain WSA. The ACEC would continue to be managed to protect the habitat of the Colorado River cutthroat trout. The ACEC management plan provides guidance that excludes surface-disturbing activities in the Rock Creek drainage. The ACEC would continue to be closed to motorized vehicles. This would help to protect the aquatic habitat and help to ensure the Colorado River cutthroat trout does not become endangered.

Existing stream exclosures would be maintained, although some relocation of fences may be necessary to reduce annual maintenance costs. No motorized vehicles would be used in these maintenance activities.

Surface-disturbing activities, except on the 600 acres of pre-FLPMA leases, would be excluded. Therefore, the crucial winter range for elk would

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be maintained. Prescribed burning would be used to improve the crucial winter range as long as the prescription provided for the protection of wilderness values.

Forestry Management

No forest management activities would be allowed.

Affected Environment

The dominant uses of the Lake Mountain WSA are wildlife, livestock grazing, hunting, and oil and gas exploration. Some horseback riding, fishing, photography, and sightseeing occur in the area. In the Lake Mountain WSA, 4,200 acres are within the 5,264-acre Rock Creek Wildlife Area of Critical Environmental Concern (ACEC) and will continue to be managed in accordance with the ACEC management plan, except where wilderness management is more restrictive (for the protection of wildlife and fisheries) on any area designated as wilderness. The principal element of the ACEC management plan is the protection of the Rock Creek watershed to protect the Colorado River cutthroat trout (a candidate threatened and endangered species). The elimination of surface disturbance on steep slopes and the protection of riparian habitat are important objectives of the plan. The ACEC management plan also includes provisions to protect elk crucial winter range.

Mineral Resources

Three federal oil and gas units (Graphite, Fogarty Creek, and Dry Piney) lie adjacent to the Lake Mountain WSA. Portions of the Graphite Unit actually lie within the WSA boundary. Production in these units is from several formations including the Frontier, Bear River, Nugget, and Madison. Gas production (carbon dioxide and methane) from the Madison has recently been established by Exxon as part of their LaBarge Project (a component of the Riley Ridge Natural Gas Project). The Big Piney-LaBarge known geologic structure (KGS) is based on this Madison gas production in the vicinity of the WSA. The entire WSA is within the boundary of the KGS. Therefore, the potential for reserves in the area is high. Approximately 26 percent of the WSA is leased for oil and gas. Of this, approximately 43 percent is under production (11 percent of the WSA acreage).

Estimates of recoverable reserves in the WSA are based on the potential from the Madison Formation. Reserve potential in the shallower

formations is very low and therefore not considered in the estimates. Several wells have tested these shallower formations and found them to be dry.

Assuming that the Madison reservoir extends beneath the entire WSA, and that reservoir conditions are similar to those found in the nearby units, an estimated 6 trillion cubic feet of gas (65 percent carbon dioxide, 23 percent methane, with the remaining gas composed of hydrogen sulfide, helium, and nitrogen) exists beneath the WSA. The Riley Ridge (Madison Formation) gas field, of which this area is a part, contains upwards of 20 trillion cubic feet of gas.

A small area along the southeast side of the WSA is underlain by Tertiary age rocks. Some of these rocks may be coal bearing, but the total tonnage would be very small and no interest has been expressed (Teknekron 1980). No other formations at the surface are coal bearing. Subsurface coal-bearing rocks may occur at a depth of 3,000 to 4,000 feet. The development potential for coal in the Lake Mountain WSA is low.

The Phosphoria outcrop is the surface exposure of former blanket-type sediments deposited in a Permian sea and subsequently deeply covered by sediments and lithified. Later uplift, folding, faulting, and erosion of the rocks created the present outcrop pattern. Most of the WSA is within Phosphate Reserve 4 established by Executive Order on July 21, 1910. Neither the WSA nor areas in the vicinity are leased. There is no known industry interest in the phosphate rock. Approximately 0.004 percent elemental uranium occurs in the Upper Phosphate Zone and could be recovered during phosphate mining operations if the phosphate were mined.

The Phosphoria Formation is also known to contain fluorine, vanadium, chromium, and other trace metals. Some of the processing plants in southeastern Idaho are removing some of these minerals during phosphate processing. No analyses for these minerals have been made in the vicinity of the WSA.

Abandoned copper prospects occur in the north half of section 21, T. 27 N., R. 115 W. The prospects consist of shallow (one to two foot) bulldozed trenches. In 1941, copper claims were staked in the north half of section 22, T. 27 N., R. 115 W., by Ivan M. Lewis, et al. These claims were relinquished in 1963. Copper staining in the Nugget Sandstone appears to commonly occur within the Wyoming Thrust Belt (Love 1973). No exploration work for copper is known to be taking place in the vicinity of the WSA.

Part of the WSA was designated as a common use area (195 acres) for the removal of moss rock

SITE-SPECIFIC ANALYSES — LAKE MOUNTAIN WSA

(public land in sections 15 and 22 of T. 27 N., R. 115 W.). The sandstone's fracture, color, and hardness make it an excellent dimension stone, useful for decorative and building purposes. The pink salmon laminated sandstone tends to break along bedding planes, leaving blocks two to four inches thick with a flat base and top. Lichens grow on its surfaces, accounting for its popularity. Business and government buildings, churches, and homes in Sublette, Lincoln, and Teton counties use the stone for exterior and structure purposes. Although there are numerous outcrops of Nugget sandstone in this part of Wyoming, the common use area is an easily accessible location in the Pinedale Resource Area where lichen growth covers the sandstone surface. The total common use area covers 360 acres and contains a relative abundance of this moss rock. About 54 percent of the common use area is in the WSA.

Water Resources

Water in the WSA is predominantly used for wildlife, livestock, and recreation. Consumptive use figures are not available. Instream flow needs for fisheries, recreation, and channel maintenance have not been calculated. If current use levels continue, streambank erosion would continue to increase which is conducive to contamination of downstream water supplies. Downstream water use of the WSA drainages is primarily for irrigation.

Four drainages are found within the WSA. Rock Creek is the major perennial stream and Long Hollow, Spring Branch, and Conway creeks are smaller, spring-fed, and, at times, intermittent streams. All of these flow into LaBarge Creek which feeds the Green River.

Flooding along perennial streams occurs in association with natural high runoff events. Sediment damage is somewhat mitigated by the presence of several beaver dams on Rock Creek which, during normal runoff years, prevent excessive siltation in the drainage.

Soil erosion in Graphite Hollow (Spring Branch and Conway creeks) appears active, as evidenced by the presence of gullying and damage to the existing road. This situation is difficult to control due to the natural instability of the soil in this drainage. No studies to determine sediment quantities have been completed.

There are 2.25 miles of Rock Creek on public land with channel stability ratings (CSR) which are used to measure stability. Normal ratings range from 38 (excellent) to 144 (poor). In 1975, the average CSR in these 2.25 miles was 92.1 (fair to high channel stability). Sixty-two percent (1.4

miles) of the stream miles with CSRs were in an apparent declining trend. In 1976, one mile of stream was fenced to protect aquatic habitat. Since that time, channel stability in the protected area has improved.

Forestry Resources

The Lake Mountain WSA is in the Deadline-Pinegrove forest management unit (FMU). The WSA contains approximately 4,725 forest acres or roughly 25 percent of the total forest acreage in the FMU and 10 percent of the forest base for the Pinedale Resource Area. Tree species include: lodgepole pine (723 acres), Douglas fir (688 acres), Engelmann spruce/subalpine fir (2,031 acres), and aspen (1,283 acres). Collectively, the conifer species (pine, fir, and spruce) contain 3,442 acres.

Based on existing inventory, the conifer has a standing volume of 33.2 million board feet (mmbf), including 1.3 mmbf of harvestable conifer volume within the aspen acreage. Volumes were not computed for aspen because no local market or demand exists for aspen products.

Annual net production from the conifer acreage is approximately 485,000 board feet (mbf) which reflects an annual mortality rate of 179 mbf. Since the date Lake Mountain was designated a WSA, no timber harvesting has been planned. However, the WSA forms a portion of the Deadline-Pinegrove FMU which has a proposed 20-year harvest level of 953 acres.

Approximately 50 percent of the forest acreage in the WSA occurs on slopes of 45 percent or greater with rocky, moderately shallow soils. The remaining 50 percent of the forest acreage in the WSA grows on slopes less than 45 percent with considerably less exposed rock and with moderately deep soils. Forest conditions vary from young, healthy, relatively insect- and disease-free stands to those that are quite old with high levels of insect and disease activity and high mortality rates. As indicated by the net annual production of 485 mbf, many of the forest stands in the WSA are in sound growing condition. However, as indicated by the 179 mbf annual mortality rate, most stands are starting to exhibit signs of reduced tree vigor, as well as increased susceptibility to insect and disease attacks. The primary insects and diseases affecting the forest resource include bark beetles, dwarf mistletoe, and several varieties of rust.

Access to the forested areas is extremely limited. Presently, the only access within the WSA is a narrow two-track with steep grades. The two-track provides access to a parcel of private land

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on Lake Mountain. Two additional roads (LaBarge Creek and Deadline Ridge) form portions of the north and south boundaries of the study area and would also provide some access to individual timber stands.

Wildlife

The Lake Mountain WSA (see Map LM-1) provides excellent habitat for a large variety of wildlife. The WSA contains 4,200 acres of the 5,264-acre Rock Creek Wildlife ACEC.

Valuable big game habitat (elk crucial winter range) is located in the WSA. This winter habitat is utilized by elk during severe weather conditions when they are forced from higher elevations because of snow depth. During mild winters, elk spread over much of the area designated as winter/yearlong habitat. A few elk stay on BLM-administered lands during the summer, but the majority move to the higher country on the Bridger-Teton National Forest. Investigations conducted by the Wyoming Game and Fish Department on elk response to mineral development demonstrate the importance of the Rock Creek - Graphite Hollow area.

Winter ranges near gas well drilling operations were abandoned during periods of intense human activity. This prompted guidance in the final EIS for the Pinedale Resource Management Plan to propose the Graphite Hollow elk winter range as high priority for habitat management planning. Mineral leases would not be issued pending completion of a habitat management plan to determine if compatible development opportunities exist in this area.

Part of the WSA is in the LaBarge deer crucial winter range. Most of the WSA is winter/yearlong habitat and is utilized primarily during mild winters and during the spring-fall period. Higher elevations of the WSA are used primarily as deer summer range. Fawning takes place in the aspen-conifer complexes during the spring. Exact fawning locations are dictated by climatic conditions and vary with availability of snow-free sites and spring green-up.

Most of the WSA is moose summer range. During severe winters, moose move down to the willow bottoms and adjacent timbered slopes of LaBarge Creek. The willow bottom and aspen-fir complexes of Rock Creek are preferred sites.

A few black bear are present within the WSA. A young bear was sighted in Rock Creek in June 1979 and again in the fall of 1980. Several sightings were reported on Deadline Ridge, which

forms the eastern boundary of the WSA. Lynx have been observed in the past; however, there are no data on population densities. The pika, a small member of the rabbit family, is fairly abundant. They occur on the talus slopes of Rock Creek, Long Hollow Creek, and LaBarge Creek proper.

The Lake Mountain WSA provides habitat for numerous game and nongame birds. The game birds which inhabit the area are sage grouse, blue grouse, and ruffed grouse. Waterfowl use is limited to the beaver pond complexes in the Rock Creek drainage.

Aquatic habitat in the WSA is limited to two small streams: Long Hollow Creek and Rock Creek. The portion of Long Hollow Creek on public lands is not presently a fishery nor is it considered a potential fishery, due to lack of sufficient water, poor stream bed composition, and insufficient shading of the stream.

Rock Creek supports a viable population of pure strain Colorado River cutthroat trout. The Colorado River cutthroat trout has been nominated as a candidate for listing as a federal threatened and endangered species. The Wyoming Game and Fish Department has prepared a draft plan to increase populations and maintain or enhance habitat for this species. Further population declines could result in formal listing of this species.

Under the guidance of a cooperatively prepared aquatic habitat management plan (East Front Aquatic HMP), measures were taken to perpetuate the Colorado River cutthroat trout and its habitat in Rock Creek. In 1976, a fish barrier was constructed by the WGFD on lower Rock Creek to prevent hybridization of this pure strain population with fish moving up from LaBarge Creek. Later that year, 2.5 miles of fence were built by BLM to form exclosures that would protect one mile of critical stream habitat from excessive livestock use. Studies were implemented to monitor habitat changes within and outside of the exclosures. Further habitat protection was provided by the Rock Creek Wildlife ACEC management plan, including restrictions on timber harvest and mineral leasing.

Recreational fishing proved to be reducing the base population of Colorado River cutthroat trout in Rock Creek below acceptable levels. Studies by the Wyoming Game and Fish Department prompted State regulations which closed Rock Creek to fishing in 1981. This closure will remain in effect until conditions warrant reopening the stream to fishing.

SITE-SPECIFIC ANALYSES — LAKE MOUNTAIN WSA

Wilderness Values

The BLM inventoried the Lake Mountain area and all contiguous public lands for wilderness characteristics. On the basis of the intensive inventory, the Bureau determined that the Lake Mountain WSA met the criteria established in Section 2(c) of the Wilderness Act of 1964. The findings of the wilderness inventory for each of the four mandatory wilderness characteristics are summarized as follows:

Size

The WSA contains 13,865 contiguous acres of public land. A road (2.25 miles) penetrates the northern boundary and terminates at a 40-acre parcel of private land on Lake Mountain. The road and private land is excluded or "cherrystemmed" from the WSA (see Map LM-1).

Naturalness

Despite the presence of several manmade intrusions, the WSA appears to retain an essentially natural character. Five two-track trails, a short road, and a buck-and-pole enclosure fence along a section of Rock Creek are the major intrusions. Terrain and vegetation screening lessen the impact of existing intrusions to the point where they are not noticeable until one is almost upon them. From most vantage points within the WSA, the landscape appears entirely natural and unaffected by human activity.

Outstanding Opportunities

The mountainous terrain, with moderate to dense forest cover (over 25 percent of the WSA), provides many opportunities to avoid the sights and sounds of other users. There are numerous secluded places throughout the WSA where a person could experience outstanding opportunities for solitude.

The presence of steep mountain slopes, deep canyons, forested areas, and meadow-like openings supply a diversity of recreation opportunities. Activities for which outstanding opportunities exist include hiking, horseback riding, hunting, wildlife observation, ski touring, and nature photography.

The area available for travel is much larger than acreage figures indicate, due to the steep mountainous terrain. However, for some activities, movement would be restricted by these steep slopes, while for others, they would provide a

challenge. The fact that only one perennial stream, Rock Creek, is found within the WSA may serve to localize user movement along this drainage.

Supplemental Values

Wildlife is the principal supplemental value of the WSA. Species include moose, elk, mule deer, black bear, and grouse. Rock Creek is one of two streams in the Upper Green River Drainage which contain a genetically pure strain Colorado River cutthroat trout. The WSA is important elk winter range for one of the last naturally wintering elk herds in the area. In other areas along the Wyoming Range, elk winter habitat is supplemented at feedgrounds.

Current use of the WSA for solitude or primitive and unconfined recreation is somewhat limited, although portions of the area provide that opportunity. The main primitive type of recreation is hunting on foot or by horseback. A secondary benefit of this activity is the opportunity to experience solitude. The Rock Creek drainage provides the best opportunities for primitive recreation and solitude.

Recreation Opportunities

The BLM recreation site inventory, completed in 1975, identified two undeveloped sites in the Lake Mountain WSA. These sites are along the LaBarge Creek Road and consist of rock fire rings and other evidence of short-term camping use. Most of the use is from weekend anglers during the summer, and hunter camps in the fall. Detailed visitor-use data are lacking for the Lake Mountain WSA.

Hunting season is the highest use period (725 hunter-days annually). Elk, mule deer, and moose hunting are considered excellent, and bear hunting is considered good. During the hunting season, October 1 through November 15, numerous hunting camps are established in and around the Lake Mountain area, mainly along LaBarge Creek, Long Hollow, and Deadline Ridge. In conjunction with the hunter use (725 hunter-days) is a substantial amount of horseback use. Because of the lack of roads and trails, horses are frequently needed to "pack out" larger game animals like elk from within the WSA.

There are an estimated 100 to 200 visitor-days annually by snowmobile enthusiasts in the WSA. This occurs in years when the area remains open to motorized vehicles during the winter due to mild weather conditions.

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Environmental Consequences

The likelihood for some oil and gas activity to occur in the area is relatively high. This assumption is based on the success ratio of nearby wells. The success ratio of wells drilled in the Pinedale Resource Area is about 64 percent. The success ratio in the immediate vicinity of the Lake Mountain WSA, in the Riley Ridge deep gas field (Madison Formation) has met virtually a 100 percent success ratio. However, portions of the WSA may be at the limits of, or outside of the Riley Ridge field. The highest potential of hydrocarbon reserves in the Lake Mountain WSA is in the deep Madison Formation, but because the extent of the reservoir is unknown, the success rate for drilling in the WSA is not expected to be greater than the 64 percent characteristic of the Pinedale Resource Area, in the long term.

The potential magnitude of surface disturbance was estimated based on the assumption that wells in the area drain 1,440 acres of gas. The acreage open to leasing under each alternative was divided by the 1,440-acre figure to estimate the number of wells that would be drilled. For analysis purposes, it was assumed that each well pad would involve 5 acres of disturbance, and each access road (needed for each well pad) would involve about 5.5 acres of disturbance (based on experience with the deep wells in the area).

Impacts of the Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 13,865-acre Lake Mountain WSA be recommended as suitable for wilderness designation. An estimated 10 wells would be drilled in the WSA, resulting in 105 acres of surface disturbance due to well locations, access roads, and other facilities.

Impacts to Oil and Gas Exploration and Production

Oil and gas leasing would resume in the entire WSA. Oil and gas exploration and development in the WSA would be expected to increase, especially in the eastern portion. The deep wells drilled in this area are generally good producers of sour gas and drain relatively large acreages (1,440 acres). In the WSA, 4,200 acres in the Rock Creek Wildlife ACEC would have a "no surface occupancy" stipulation (NSO) applied.

Leasing in the remaining parts of the WSA, which includes portions of the Rock Creek Wildlife ACEC and portions of the adjacent Deadline

Ridge-Graphite Hollow crucial elk winter range, would be accomplished through guidelines established in a minerals/wildlife activity plan and environmental analysis. This plan would consist of an evaluation of the ongoing elk habitat use study and compilation of geologic data. The objective for the area would be to continue to maintain the crucial elk winter range on the east side of the WSA. The entire area would be available for leasing with appropriate stipulations following the completion of the activity plan and associated environmental analysis.

The WSA contains relatively large recoverable reserves estimated at 6,000 BCF of gas within the Madison Formation. The development of the reserves is not expected to take place for some time due to economic factors and because current development plans call for drilling in selected areas to the east. However, it is anticipated that, once industry's immediate drilling plans are completed, activity may concentrate more heavily on the WSA. Activity would be expected to increase within the next 5 to 10 years. The activity within the WSA would benefit the local economy, increase revenues for the state and local economies, and provide a continuing level of employment in the industrial sector.

Under the Proposed Action, 10 wells would be expected to be drilled and up to 5,000 to 6,000 BCF of gas would be recovered from the WSA. One of these wells would be located on the pre-FLPMA leased acreage in the northeast portion of the WSA.

Conclusion. If the WSA is not designated wilderness, a very high probability exists that oil and gas exploration and production would occur in the WSA. An estimated 5,000 to 6,000 BCF of gas would be produced from the WSA. This is almost all the gas in the WSA and accounts for about 27 percent of the gas in the Riley Ridge field (20,000 BCF) and about 11 percent of the reserves in the Green River Basin to the west of the WSA (50,000 BCF) which is to the west of the Riley Ridge field.

Impacts to Timber Production

If the WSA were not designated wilderness, forested lands in the WSA would be managed for the production of forest products. One exception would be the Rock Creek drainage where timber harvesting would be excluded to protect important watershed and wildlife values. The timber harvest preclusion in the Rock Creek drainage would result in removing 1,322 acres of conifer from the operational forest base for the Pinedale Resource Area, including some firewood and Christmas trees. In addition, 180 acres of aspen would be removed from the forest base. However, because

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there is no local demand for aspen products, the impact of this removal from the forest base would be negligible.

Approximately 85 acres in the WSA would be harvested, resulting in a timber production of 900,000 board feet over 20 years. This amounts to an annual average of 45,000 board feet or 0.2 percent of the annual production from the nearby Bridger-Teton National Forest.

There would be an additional loss of a portion of the forest resource through insect and disease activity. Inventory data for the Pinedale Resource Area indicate that the current mortality rate for the Rock Creek drainage is approximately 26,000 board feet annually. This trend is expected to continue and increase as overall age of the stands increases.

Conclusion. If the WSA were not designated wilderness, 85 acres in the WSA would be harvested over 20 years, providing approximately 45,000 board feet of timber and some firewood and Christmas trees annually. This relates to a production of approximately 20 million board feet annually from the Bridger-Teton National Forest which is near the WSA.

Impacts to Wildlife Habitat and Populations

Habitat for deer, moose, bear, raptors, and small game would be maintained within the 4,200 acres of the Rock Creek Wildlife ACEC that are within the Lake Mountain WSA. Off-road vehicle restrictions would reduce impacts to wildlife on the remainder of the area. The establishment of the winter closure area for the elk crucial winter range would have a long-term beneficial impact on the elk herd. Closure would preclude snowmobile activity in the area, which would disturb the elk and cause them to avoid the area. The population of elk in this area is the last naturally wintering population of elk in this part of Wyoming; the prevention of disturbance is very important.

There would be one well drilled on existing leases, resulting in 10.5 acres of surface disturbance in elk winter range. There would be 9 additional wells drilled resulting in 94.5 acres of surface disturbance, but these wells would not be in crucial elk winter range. The human activity associated with drilling would cause elk to avoid the areas where drilling occurs. Oil and gas exploration and development would be restricted on elk crucial winter range (10,300 acres within the WSA) pending the completion of habitat management planning for the Deadline Ridge - Graphite Hollow elk herd. Investigations by the Wyoming Game and Fish Department into the compatibility of mineral development with elk winter use will provide information to help develop this plan.

Until this study is complete, no leases would be issued.

After the study is complete, leases would be issued with stipulations to protect the crucial winter range. Some portions of the area would require no surface occupancy restrictions, while a seasonal restriction may be adequate on other areas. Exploration would be allowed only during periods when big game are not concentrated on winter ranges. This would help to mitigate adverse impacts to the elk since elk avoid areas where there is human activity. The adverse impacts (displacement) associated with oil and gas activities (construction, drilling, production, and abandonment) would be mitigated by offsite drilling that would take place because of the NSO stipulation within the WSA. While the wildlife study has not been completed, it is assumed there would be 10 wells within the WSA.

Activities in the common use area for moss rock would not be allowed during crucial winter periods for big game. Therefore, no adverse impacts would be anticipated.

Prescribed burning, to improve elk winter range, would benefit elk by improving habitat in areas away from surface disturbance and human activity. This would mitigate some of the adverse impacts caused when the elk are displaced from areas where disturbance takes place. Approximately 200 acres of prescribed burning to improve elk winter range are anticipated in the eastern portion of the WSA over 20 years.

Water quality and channel stability problems would continue in some areas (e.g., Spring Branch and Conway creeks) because of the natural instability of the soils. The slope restrictions and restrictions on surface disturbance within 500 feet of live streams would prevent surface disturbance associated with oil and gas activities in the Rock Creek Wildlife ACEC. This would serve to prevent additional soil erosion and siltation from entering drainages, which would help to maintain the habitat of the Colorado River cutthroat trout. Populations of the species would increase slightly because of emphasis on their management by BLM and the Wyoming Game and Fish Department. The closure to fishing would help to maintain the species population.

The management actions taken in the Rock Creek Wildlife ACEC would ensure that adequate steps are taken and continued within the Rock Creek drainage to protect and improve the habitat for Colorado River cutthroat trout. Off-road vehicles would not be allowed. Mineral extraction for salables would not be allowed. Oil and gas leases would not be allowed within 500 feet of live streams. Forest management activities would be precluded. Existing stream exclosures would be

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maintained. There is currently a closure to fishing ordered by the Wyoming Game and Fish Department. The numbers and sizes of this species would be maintained or increased because the lack of disturbance would protect the habitat, and the closure to fishing would enable fish to reach larger sizes without being subject to fishing pressure.

Conclusion. Some wildlife habitat would be lost due to direct disturbance (105 acres due to oil and gas and 90 acres due to forestry operations). There would be some displacement of big game. The completion of a wildlife study in the area would provide the information needed to issue oil and gas leases with appropriate stipulations to protect wildlife. Due to restrictions on where and when surface disturbance and activities could take place, and the 200 acres of prescribed burning to improve crucial winter range, wildlife populations may be subject to temporary displacement; however, population numbers are not expected to be affected.

The preclusion of surface-disturbing activities in the Rock Creek drainage would maintain the habitat of the Colorado River cutthroat trout. This, and the Wyoming Game and Fish closure to fishing, would help to maintain the population of the species by reducing stress factors and fishing pressures.

Impacts to Wilderness Values

Implementation of the Proposed Action would maintain some of the wilderness character of the WSA. Within the Rock Creek Wildlife ACEC (4,200 acres of which is in the WSA), essentially all the wilderness characteristics would remain intact because oil and gas activities, motorized vehicles, and forest management activities would be excluded. However, activities allowed outside of the ACEC could be heard within the ACEC, resulting in reduced opportunities for solitude. This would occur only for short periods while timbering activities are ongoing and while oil and gas construction and drilling are taking place. After these periods for both activities, the effects on solitude in the ACEC are expected to be minimal. The closure to motorized vehicles in the ACEC and the limited designation in the rest of the WSA would help to preserve solitude.

There would be a loss in wilderness values outside of the Rock Creek Wildlife ACEC because oil and gas operations would be allowed, consistent with the maintenance of crucial big game winter range. Approximately 105 acres would be disturbed by roads and other facilities, resulting in a loss in naturalness. There would also be a loss in solitude due to drilling and production activi-

ties. Because little exploration and production is anticipated in the western portions of the WSA, and these disturbances would not be allowed in the ACEC, these losses would be apparent in about half of the WSA. During the winter, both construction and drilling activities would be reduced, resulting in a seasonal return of solitude.

The effects of forestry activities would adversely affect naturalness because of the removal of 85 acres timber over 20 years. As regeneration of the forest resource takes place, naturalness would return. Forestry activities would affect solitude only while the activities are occurring.

The prescribed burning would be designed to approximate a natural burn and would not affect naturalness. The burn would be irregular and would be indistinguishable from one caused by lightning. Overall, this activity would not be expected to affect wilderness values.

The effects of collection of moss rock in the common use area would have only minimal effect on wilderness values. Solitude would be adversely affected while people are collecting the rock, mainly due to the presence of vehicles in the area. The collection of the rock would have little, if any, effect on naturalness. The collection area is limited to 195 acres in one isolated canyon along the southern boundary of the WSA.

Conclusion. If the WSA were not designated wilderness, the area's wilderness values would be retained in about half of the WSA, principally in the Rock Creek Wildlife ACEC, because of restrictions on surface disturbance and motorized vehicles. Oil and gas activities would cause a loss in both solitude and naturalness for the long term, while the wells are producing. While other surface-disturbing activities would be allowed (forestry operations, moss rock collection), the effects on naturalness and solitude would be minor and short term.

Impacts to Recreation Opportunities

Access in the area outside the Rock Creek Wildlife ACEC would continue to be available through existing roads and trails. The ACEC would be closed to motorized vehicles. The construction of new roads for oil and gas activities where surface disturbance is not restricted would provide increased access to hunters. However, the disturbance associated with oil and gas activities would result in a small decrease in hunting quality in the WSA as a whole. The number of hunter-days spent in the WSA would remain about the same (725 hunter-days annually).

Motor vehicle use outside of the Rock Creek Wildlife ACEC would be limited to existing roads

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and trails. There would be a closure to snowmobiles in the elk crucial winter range during normal or severe winters, resulting in a displacement of 100 to 200 visitor-days of use (as measured during mild winters when snowmobile use would be allowed). Such mild winters occur about one of every three years. This would result in a decreased availability of opportunity to engage in this type of recreation within the WSA. However, there is sufficient acreage available outside of the elk crucial winter range to provide the opportunity to use snowmobiles in environments similar to the WSA. Snowmobile users would be displaced to other areas but would not be prevented from participating in this type of recreation.

Fishing use of Rock Creek would not change in the short term because the Wyoming Game and Fish Department has closed the stream to all fishing. The lack of surface disturbance would maintain the opportunity to open the area to fishing.

Forestry activities would not affect recreation opportunities because of the small acreage (85 acres) anticipated to be harvested over the next 20 years.

Conclusion. The limitations on activities in the crucial winter range would help to maintain hunting quality in the WSA and surrounding area for hunters who use horses. Hunters who use vehicles would be displaced to other areas.

Snowmobile users would be displaced to other areas two of every three years.

Fishing opportunities would be improved in the long term because of the current closure to fishing and the preclusion of surface-disturbing activities in the Rock Creek drainage.

Impacts of the Alternative (All Wilderness)

The All Wilderness Alternative would be that all 13,885 acres of the Lake Mountain WSA be recommended as suitable for wilderness designation. One well would be drilled on pre-FLPMA leased land held by production, resulting in 10.5 acres of surface disturbance.

Impacts to Oil and Gas Exploration and Production

There are 600 acres of pre-FLPMA leases held by production. One gas well would be drilled and approximately 136 BCF of gas would be produced if the typical Madison reservoir were tapped. There would be approximately 10.5 acres of surface disturbance due to the well location, access road, and other facilities.

Exploration for and development of mineral resources on the remaining 13,285 acres would not take place and would not contribute to regional oil and gas production. The production of an estimated 5,000 to 6,000 BCF of gas would be foregone.

The potential for production of gas resources is high, especially in the eastern portion of the WSA. Approximately 600 leased acres currently held by production are located within the WSA and the Graphite federal unit. These deep Madison gas reserves are considerable with up to 6,000 BCF of gas, assuming that reservoir conditions to the east are also present beneath the entire WSA. The Madison reservoir is very large and laterally continuous. Therefore, it is likely that it continues below part or all of the WSA.

Conclusion. If the WSA were designated wilderness, oil and gas production from the WSA itself would be 136 BCF of gas. This is 0.68 percent of the reserves in the Riley Ridge field (20,000 BCF) and 0.27 percent of the reserves in the Green River Basin to the west of the WSA (50,000 BCF). Gas production would be foregone on 5,000 to 6,000 BCF of gas.

Impacts to Timber Production

If the WSA were designated wilderness, there would be no forest management (e.g., thinning, spraying to control insects) within the WSA, and no timber, firewood, or Christmas trees would be provided. Approximately 900,000 board feet of timber harvest would be foregone. Firewood and Christmas trees would be provided from elsewhere in the Pinedale Resource Area or the Bridger-Teton National Forest. These areas have sufficient resource base to supply the regional need.

There would also be a loss of forest resource through insect and disease activity. Inventory data indicate that the current mortality rate for the WSA is approximately 179 mbf annually. This trend is expected to continue and will increase as stands in the area increase in age.

Insect and disease mortality rates would be 10 to 20 percent higher than under the Proposed Action (No Wilderness).

Conclusion. If the WSA were designated wilderness, forest resources would be maintained but would not be managed as an economic resource. No forest products would be harvested and 900,000 board feet of timber would be foregone over 20 years (45,000 board feet per year). This is only 0.2 percent of the annual production from the nearby Bridger-Teton National Forest. Firewood and Christmas trees would be available

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from other areas of the Pinedale Resource Area or the Bridger-Teton National Forest. Mortality rates would be 10 to 20 percent higher than under the Proposed Action.

Impacts to Wildlife Habitat and Populations

Wilderness designation would benefit all wildlife species because of the elimination of human activity related to development in all but 600 acres of the WSA. The primary benefit to terrestrial wildlife would be the protection of elk winter range and calving areas, spring through fall habitat for moose and deer, and raptor nesting areas. Wildlife populations in the WSA would remain about the same or would increase slightly, since more area would be protected from surface disturbance and human activity.

The elimination of motor vehicles would lessen the disturbance to wildlife. As under the Proposed Action, snowmobiles would not disturb elk on crucial winter ranges during the winter.

Wilderness management would benefit fisheries habitat, because most of the land surrounding the Rock Creek drainage also would be protected. This would reduce the likelihood of oil and gas activities (outside the 10,300-acre area subject to the NSO stipulation under the Proposed Action) adversely impacting fisheries habitat. Increased interest in the area's fishing could occur, resulting in potential adverse impacts to fisheries. However, most of this impact would be mitigated if the Wyoming Game and Fish Department continues the temporary fishing closure now in effect.

Wilderness designation would help preserve water quality. The elimination of surface disturbance within the WSA (except on 600 acres of pre-FLPMA leases held by production) would help preserve water quality. The streams both inside and outside the Rock Creek Wildlife ACEC would remain in their existing condition. Water quality and channel stability problems would continue at naturally occurring levels.

Conclusion. If the WSA were designated wilderness, big game habitat would be protected on all but 600 acres of pre-FLPMA leases. Due to the elimination of surface disturbance and motorized vehicle activity in all of the WSA, big game population numbers and habitat for the Colorado River cutthroat trout would be maintained.

Impacts to Wilderness Values

Wilderness designation of the WSA would provide more complete protection of the Rock Creek drainage and the lands surrounding it, than would

nonwilderness management (including special management within the Rock Creek Wildlife ACEC). It would add habitat for a unique and sensitive fish species to the National Wilderness Preservation System. Opportunities to experience wilderness types of recreation, such as hiking, horseback riding, photography, and sightseeing, would be preserved.

Wilderness values would be protected on all but 600 acres of pre-FLPMA leases held by production in the northeast portion of the WSA. Visual and noise intrusions would affect the opportunity for solitude only at the periphery of the WSA and generally only for short periods.

The 4,200-acre portion of Rock Creek Wildlife ACEC in the WSA is an extremely sensitive area due to the steep slopes and the sensitive nature of the Colorado River cutthroat trout inhabiting Rock Creek. Surface-disturbing activity would not occur and the opportunities to experience solitude, naturalness, and primitive recreation would be preserved.

Conclusion. The area's naturalness would be preserved on all but 600 acres, where there would be one oil and gas well and associated roads and facilities. However, even if the WSA is designated wilderness, solitude would be adversely affected by the high probability of oil and gas exploration and production taking place on the periphery of the WSA. Wilderness designation would add habitat for a unique and sensitive fish species to the National Wilderness Preservation System. The area's outstanding wilderness values would be preserved on most of the WSA.

Impacts to Recreation Opportunities

The elimination of motor vehicles would result in a decrease of about 400 hunter-days annually. About 100 to 200 visitor-days using snowmobiles in one of every three years (during mild winters) would be displaced. These uses are the two primary recreation uses of the WSA. Vehicles are currently prohibited in the Rock Creek drainage and are limited to existing roads and trails in the rest of the WSA. The designation of the area as wilderness would result in little change in the existing recreation uses because there are no roads in the Rock Creek drainage and there is currently little use off existing roads. The WSA would continue to provide the opportunity for wilderness recreation.

Fishing use of Rock Creek would not change in the short term because the Wyoming Game and Fish Department has closed the stream to all fishing. The lack of surface disturbance would maintain the opportunity to open the area to fishing.

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Conclusion. If the WSA were designated wilderness, some hunters (an estimated 400 of the 725 hunter-days annually) and all snowmobilers (100 to 200 visitor-days during one of every three years) would be displaced to nearby areas which are adequate to support the additional use. They would not be deprived of the opportunity to engage in this type of recreation because the capacity of nearby areas is sufficient to handle the increased use.

Fishing opportunities would be improved in the long term because of the current closure to fishing and the preclusion of surface-disturbing activities in the Rock Creek drainage.

RAYMOND MOUNTAIN WSA

Summary Description and Background

The Raymond Mountain WSA (Map RM-1) is in the Sublette Mountain Range in west-central Wyoming, approximately 85 miles south of Grand Teton National Park. The WSA is approximately 19 miles long and 4 miles wide at the widest point, and contains 34,456 acres: 32,936 acres of public land; 1,320 acres of state land; and 200 acres of private land. The entire 13,530-acre Raymond Mountain Wildlife Area of Critical Environmental Concern (ACEC) is within the Raymond Mountain WSA. The WSA is one of two in the Wyoming portion of the Overthrust Belt.

Proposed Action and Alternatives

The two alternatives analyzed were: 1) that all 34,456 acres of the Raymond Mountain WSA be recommended as suitable for wilderness designation, and 2) that no acreage in the 34,456-acre Raymond Mountain WSA be recommended as suitable for wilderness designation.

Proposed Action (All Wilderness)

The Proposed Action would be that all 34,456 acres of the Raymond Mountain WSA be recommended as suitable for wilderness designation. There would be no oil and gas leasing and no surface disturbance caused by mineral exploration or development in the WSA. Motorized vehicles would be prohibited. The acquisition of up to 1,320 acres of State land and 200 acres of private land would enhance manageability of the WSA as wilderness.

Oil and Gas Management

Oil and gas leases would not be offered in the entire WSA (34,456 acres). There are no pre-FLPMA or post-FLPMA oil and gas leases in the Raymond Mountain WSA. Therefore, there would be no surface disturbance associated with oil and gas exploration and development.

Solid Minerals Management

Mineral extraction for salables would not be allowed. No mining claims are currently recorded with BLM in the WSA, and no locatable mineral activity is anticipated.

There is an existing phosphate lease (W-0280560) on the western boundary of the WSA (approximately 189 acres), which is due for readjustment in the year 2004. Development of the resource is possible but not likely before then.

Off-Road Vehicle Management

Motorized vehicles would be prohibited in the WSA.

Recreation Management

Hunting would be allowed but the use of motorized vehicles in connection with hunting would be prohibited. No developments associated with recreation are anticipated. The area would be managed to provide primitive, nonmotorized recreation. The greatest amount of use would be for hunting and fishing.

Grazing Management

Grazing management practices (Smiths Fork grazing allotment) would not change from those currently in place except that operators would not be allowed to use vehicles in the WSA. The Smiths Fork allotment is in the "I" or improve category. Within the Raymond Mountain WSA, the estimated carrying capacity is 4,800 AUMs for cattle and 9,300 for sheep, with use occurring from May 16 to November 1. Two exclosures along Huff Creek protect and improve riparian and fisheries habitat. An allotment management plan (AMP) is currently under preparation for the Smiths Fork allotment. Additional range improvements (e.g., short drift fences) would be identified. Under the wilderness alternative, any range improvements would have to meet the nonimpairment criteria. The use of motorized vehicles to maintain improvements would be prohibited; no exceptions would be allowed. The access currently provided by the 3 cherrystemmed roads appears to be adequate for range management purposes.

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Wildlife Management

Yearly maintenance on existing stream enclosures and instream structures would continue. There would be some habitat improvement to maintain or improve wildlife habitat (e.g., prescribed burning, water developments, cavity nesting sites for peregrine falcons, instream structures, grazing enclosures). These projects would also need to meet the nonimpairment criteria.

Big game populations, habitat conditions, and cliff nest sites for potential peregrine falcon habitat would be monitored to determine wildlife use.

Forestry Management

Timber harvesting would not be allowed.

Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 34,456-acre Raymond Mountain WSA be recommended as suitable for wilderness designation. The WSA would be managed under the guidelines of the Kemmerer Resource Management Plan (RMP). This RMP was completed in April of 1986. The management actions are described below. There would be a potential for 43 wells to be drilled in the WSA, resulting in 301 acres of surface disturbance.

Oil and Gas Management

Oil and gas leases would be offered on 13,530 acres in the Raymond Mountain Wildlife ACEC, subject to restrictive stipulations, which would provide protection for wildlife, watershed, and recreational values. No Surface Occupancy restrictions would be attached to leases in areas less than ¼ mile from perennial streams in the ACEC. Because of the physical and economic problems that would be associated with construction of well pads, access roads, and associated facilities, the general assumption that wells would be on a 640-acre spacing (in the WSA), would not apply within the ACEC. For analysis purposes, it was assumed that a well would be located on about twice the acreage within the ACEC. Ten wells would be drilled from the surface within the ACEC, resulting in 70 acres of surface disturbance. Approximately 25 to 30 miles of new roads would be constructed to reach oil and gas well sites.

Seasonal restrictions would be applied to all activities that would affect big game populations during crucial periods.

Industry would be required to reclaim all unused areas disturbed as a result of oil and gas exploration and development activities. For dry holes, the area disturbed would remain at least partially disturbed for 3 to 5 years. For producing wells, the reclamation on approximately half (3.5 acres) of the disturbance for each well would be initiated in 3 to 5 years. The reclaimed area would not provide wildlife habitat approaching predisturbance conditions for another 10 to 15 years. The remaining 3.5 acres would not be reclaimed until production from the well ceases (approximately 30 years after drilling).

The area outside the Raymond Mountain Wildlife ACEC (20,926 acres) would be managed under the applicable multiple-use guidelines of the Kemmerer RMP. Surface-disturbing activities would be allowed, subject to surface protection and rehabilitation stipulations to protect wildlife, watershed, and recreation values. The northwest quarter of the WSA contains very steep slopes, similar to the ACEC. Surface disturbance would not be allowed under certain conditions. For example, surface disturbance would be restricted on steep slopes (over 25 percent), unstable soils, and close to live water (within 500 feet). An estimated 33 wells would be drilled in this area, resulting in 231 acres of surface disturbance. An additional 10 wells would be drilled in the ACEC resulting in an additional 70 acres of surface disturbance. An estimated 39 BCF of gas would be recovered.

The Raymond Mountain Wildlife ACEC would be closed to seismic activity from October 1 to November 1 (during hunting season). The winter range would be closed to seismic activity from November 15 to April 30. The elk calving area would be closed seismic activity from May 1 to June 30 (Map RM-2).

New oil and gas leases would be issued with stipulations to limit construction and drilling activity during the critical winter period (December 1 to May 15). This stipulation is intended to protect moose, deer, and elk. No Surface Occupancy stipulations for areas less than ¼ mile from perennial streams would be attached to oil and gas leases offered in the Raymond Mountain Wildlife ACEC to protect the Bonneville (Bear River) cutthroat trout.

Solid Minerals Management

Mineral extraction for salables would be allowed subject to surface protection and rehabilitation requirements to protect other resources (e.g., seasonal restrictions to protect big game and raptors; restrictions on activity on steep

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slopes, unstable soils, and near streams). These stipulations include: seasonal (to protect crucial wildlife winter habitat) and slope restrictions (restricting activity on slopes in excess of 25 percent). Reclamation would be required. Conditions on operations would be imposed requiring the saving of topsoil, recontouring, and reseeding. However, no activity related to salable minerals is likely.

An existing phosphate lease (W-0280560, Tenneco Oil Company) lies on the western boundary of the WSA and is due for readjustment in the year 2004. It was issued as a "fringe area" lease. Additional areas would be available for lease. While phosphate may exist in the WSA, the main part of the outcrop occurs outside of the WSA. There is currently no production from this outcrop. The outcrop is not in the ACEC. It is on steep slopes. No development of the phosphate resource is anticipated because existing sources are adequate to meet current and anticipated future needs for phosphate. No activity related to other leasable minerals is anticipated. While coal may occur in the WSA, its development potential is low. There are no known locatable minerals that would be economically minable under current conditions. Therefore, no activity related to locatable minerals is anticipated.

Off-Road Vehicle Management

The Raymond Canyon Trail is closed to motorized vehicle use. Raymond Canyon, White Canyon, and 2 two-track trails off of IGO Speedway into Raymond Canyon are closed to motorized vehicle use. New access roads for oil and gas and timber management would be allowed subject to the same kinds of surface disturbance stipulations as oil and gas activities.

New access roads would be allowed in the Raymond Mountain Wildlife ACEC, and it is estimated that 10 wells would be drilled within the boundaries of the ACEC. Most access roads to these wells would be relatively short within the ACEC (one half to one mile long) because construction problems associated with the steep slopes would make the construction of longer roads to access single wells economically infeasible. The increased access into the ACEC would be relatively small and would generally not penetrate far into the drainage. New access roads in the ACEC would generally be kept $\frac{1}{4}$ mile from perennial streams to protect the habitat of the Bonneville (Bear River) cutthroat trout.

Snowmobile use would be allowed unless it is determined that snowmobile use would cause adverse impacts to wintering elk. This determination would be made in consultation with the Wyo-

ming Game and Fish Department. Based on past experience, the closure of this area to snowmobiles has not been required since this policy has been in effect (for the past 7 years).

Recreation Management

Hunting would be allowed but hunters using motorized vehicles would only be allowed on the Huff Creek Road and the two roads on the southeast corner of the WSA. Currently, six outfitters use areas within the Raymond Mountain WSA for day use and for hunting camps.

Snowmobiling would be allowed if it would not adversely affect wintering big game (based on an annual analysis). There would be about 100 visitor-days spent in the WSA when snowmobiling is allowed. Based on past experience, this would occur almost every year.

No facility development associated with recreation is anticipated in the WSA. The current recreation uses of the WSA would remain the same.

Grazing Management

Grazing management practices (Smiths Fork grazing allotment) would not change from those currently in place. The Smiths Fork grazing allotment is in the "I" or improve category. Within the Raymond Mountain WSA, the estimated carrying capacity is 4,800 AUMs for cattle and 9,300 AUMs for sheep, with use occurring from May 16 to November 1. Two enclosures along Huff Creek protect and improve riparian and fisheries habitat. The stream enclosures would be maintained.

Motor vehicle access would be allowed along the Huff Creek Road, Corral Creek Road, and First Creek Road. Future access for range management activities may be provided by oil and gas access roads constructed within the WSA. These roads would be reclaimed if the exploratory well is a dry hole. In such a case, the added access for range management activities would be available for one to two years. If a well is a producer, the road may be available for use for range management activities until production stops and the well is abandoned and reclaimed.

Wildlife Management

Yearly maintenance on existing stream enclosures and instream structures would continue. There would be some habitat improvement to maintain or improve wildlife habitat (e.g., prescribed burning, water developments, cavity nesting sites for peregrine falcons, grazing enclosures, instream structures).

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Existing habitat would be managed to maintain existing populations of wildlife. Timber harvesting of quaking aspen would be designed to enhance wildlife habitat.

Big game populations, habitat conditions, and cliff nest sites for potential peregrine falcon habitat would be monitored to determine any changes. The results of monitoring would be considered in the decisionmaking processes for actions in the WSA. Reclamation of disturbed areas would be required to help maintain wildlife habitat.

Forestry Management

Timber harvesting would be allowed subject to restrictions on timber harvesting on steep slopes (to minimize erosion and sedimentation) and provisions protecting wildlife (seasonal restrictions to protect crucial winter habitat), watershed, and recreation values. These restrictions would be similar to the restrictions on oil and gas exploration and development.

Timber harvesting would be excluded from the watershed to protect the habitat for the Bonneville (Bear River) cutthroat trout. Demand for minor forest products such as fuelwood, posts and poles, Christmas trees, and house logs would be met from intensively-managed stands within the WSA. Approximately 100 acres would be harvested over 20 years. Approximately 75 percent of this (75 acres) would be from within the Raymond Mountain Wildlife ACEC. The restrictions on timber harvesting in the ACEC would be similar to those applied to other surface-disturbing activities (e.g., under minerals management). The harvesting of quaking aspen would produce firewood and would be designed to enhance wildlife habitat.

Affected Environment

The Raymond Mountain WSA has diverse vegetation (Map RM-3) and steep topography. It is forested over most of the WSA, interspersed with open parks. The southern end of the WSA contains big sagebrush stands and rock outcrops. There are several creeks in the canyons in the WSA. Huff and Raymond creeks contain a pure strain of Bonneville or Bear River cutthroat trout. The area is important moose, deer, and elk habitat.

The dominant use of the Raymond Mountain WSA is livestock grazing (sheep and cattle) and big game hunting, often by hunters walking into the area or entering on horseback. Fishing occurs in Raymond and Huff creeks. Camping is usually

associated with hunting and fishing; and horseback riding, picnicking, hiking, backpacking, sightseeing, and wildlife photography are other uses of the area. Recently, there has been an increase in use of the WSA for trapping. Winter snowmobiling use is common (approximately 100 visitor-days annually).

The entire 13,530-acre Raymond Mountain Wildlife ACEC is within the Raymond Mountain WSA. This area will continue to be managed in accordance with the ACEC management plan except where wilderness management is more restrictive on any area designated as wilderness. The ACEC will be managed primarily to protect the sensitive Bonneville cutthroat trout and its habitat; and wildlife habitat (elk, deer, moose, others), including crucial winter habitat for elk and deer.

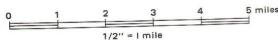
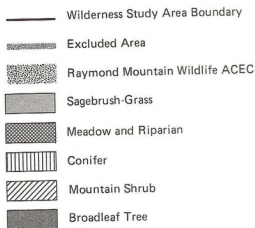
Mineral Resources

There are no pre-FLPMA or post-FLPMA oil and gas leases in the WSA. The recoverable reserves in the Raymond Mountain WSA are estimated to be 39 billion cubic feet (BCF) of gas.

Recoverable reserves were estimated from the "Update on the Wyoming-Idaho-Utah Thrust Belt: Joint Meeting of the Wyoming Geological Association, Wyoming Geological Survey, and Department of Geology at the University of Wyoming." "Reserves are 45 to 90 BCF per section estimated from currently productive anticlines. One or two potentially productive structural closures per township are present in the Thrust Belt with 2 to 6 sections within each structural closure." The Raymond Mountain WSA falls within an area of secondary potential covering about 160 townships and includes the western Crawford thrust plate and the northern Thrust Belt north of the Big Piney - LaBarge area. A probability of production has been assigned to the secondary potential area. The low range was used to calculate the average recoverable reserves (0.75 BCF per 640-acre spacing) and the high range was used to calculate the maximum recoverable reserves (9 BCF per 640-acre spacing). The area of secondary potential, within which the Raymond Mountain WSA falls, was estimated to contain 90 BCF of gas per township (36 sections).

The flank of a potentially productive anticline on the northern end of the WSA was tested by two wells that had noncommercial shows of gas. In 1978, Gulf Oil Corporation drilled a deep (16,061 feet) test well (Huff Lake Federal No. 1) within the WSA (section 2, T. 27 N., R. 119 W.), which intercepted the east flank of the anticline. In 1982, the Sohio Petroleum Company drilled the Huff Creek Federal No. 1 to a depth of 15,924 feet (section

R.118W.



Map RM-3
Raymond Mountain WSA
VEGETATION TYPES

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9, T. 27 N., R. 119 W.). It tested noncommercial quantities of gas and was plugged and abandoned.

In Petroleum Potential of Wilderness Lands, Wyoming (USGS, Map I-1547, 1983), the Raymond Mountain WSA was rated high potential. This indicates that there is a "geologic environment highly favorable for occurrence of oil and gas accumulations. Area is within or on trend with existing production from structural and/or stratigraphic traps."

Part of the Raymond Mountain WSA is prospectively valuable for coal (in sections 26, 27, 34, and 35, T. 28 N., R. 119 W.) according to the U.S. Geological Survey. The coal is in the Cokeville Formation (lower Cretaceous Age), which dips to the east from 45 degrees to vertical in the area. However, sections 27 and 34 may have been included in the prospectively valuable determination in error, since it appears that these sections are not underlain by the Cokeville Formation. The Cokeville Formation coal reserves in the WSA would probably be very small (Teknekon 1980). This fact, combined with the availability of much more extensive and accessible coal in other parts of Wyoming, including the Kemmerer area 30 miles to the southeast, makes the Raymond Mountain WSA a low potential area for coal development.

The Phosphoria Formation of Permian age occurs along the western edge of the WSA. The outcrop lies outside the WSA, with the exception of two areas, part of section 31 (about 10 acres), T. 27 N., R. 119 W., and part of sections 18 and 19, T. 26 N., R. 119 W. A phosphate lease (W-0280560) is inside the WSA boundary, just east of the Phosphoria outcrop (Tenneco Oil Company). No recent activity has occurred on the lease. The lease was issued as a noncompetitive "fringe acreage" lease to fill in small pieces of federal minerals between patented mining claims (this helped the mining claim holder form a logical mining unit). The Phosphoria Formation occurs on one small part of the lease in section 31, T. 27 N., R. 119 W. It may also exist in other small parts of the western edge of the lease. In addition, part of section 26, T. 25 N., R. 119 W., is included in a phosphate reservation (Executive Order July 2, 1910). No phosphate occurs in the surface geology of this part of the reservation.

Mining of phosphate in the Phosphoria Formation in the WSA would probably be by underground methods, due to the nearly vertical beds. The total tonnage occurring in the WSA is probably very small, depending on the continuity and analysis of the Phosphoria Formation under the

surface alluvium in section 18. The likelihood of development of phosphate and associated minerals is low, in part, because there is little information on the continuity, quality, or mining condition of the Phosphoria Formation in the WSA. Development would probably begin on well-exposed deposits outside the WSA and depends on more favorable market conditions.

The WSA is prospectively valuable for sodium and potassium according to the U.S. Geological Survey. This evaluation refers to possible evaporite beds in the Preuss Redbeds (middle Jurassic age) which outcrop in the northern and eastern parts of the WSA. Salt developments are located along Salt Creek north of the WSA, in section 26, T. 29 N., R. 119 W. (Schultz 1914). A preference right lease was issued in 1960 for the southwest quarter of the section. Four to five tons of salt were removed and sold locally in the Afton, Wyoming, area; and the lease remains active. There is no evidence of commercial quantities of sodium or potassium in the WSA. Future prospecting may reveal deposits of local interest, but competition from Great Salt Lake companies would probably be a factor in marketing any deposit. The potential for resource development is low.

The sedimentary formations do not indicate much potential for locatable minerals, and no interest is known to exist. Bentonite may occur in the Cokeville Formation (Rubey, et al. 1976), but there are no indications of a commercial deposit or public interest, especially in view of other bentonite deposits in Wyoming.

Copper occurs in the Nugget Sandstone of Jurassic age and Wells Formation of Permian age in some areas (Rubey, et al. 1975). However, this mineralization is not significant within the WSA.

There are several accumulations of colluvium and terrace gravels, much of it along Salt and Huff creeks. There has been no industry interest in potential gravel sources. Nugget Formation quartzite has been quarried along Rock Creek southeast of the WSA (Rubey, et al. 1975). Nugget Formation rock outcrops are in a north-south trending band in the western third of the WSA. Access problems and the availability of suitable deposits outside the WSA make it unlikely that salable mineral development on a commercial scale would occur in the WSA. Small amounts may be used for local development if the source was immediately adjacent to the development. Gravel is abundant throughout southwest Wyoming adjacent to the WSA. Restricting access and use of this resource in the WSA would not cause a shortage or hardship since sufficient resource is readily available.

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Water Resources

Water in the WSA is used for wildlife, livestock, and recreation. Immediate downstream water uses of the perennial streams are primarily irrigation, livestock watering, and wildlife. Consumptive use figures are not available. Instream flow requirements for fisheries, recreation, and channel maintenance have not been calculated.

In 1980, a Level II Water Quality Reconnaissance Survey was conducted on three streams in the Thomas Fork drainage (Upper Huff Creek, Lower Huff Creek, and Coal Creek) and on one stream in the Raymond Mountain drainage (south fork of Raymond Creek). Average annual sediment yield from the four streams monitored in 1980-1981 was 0.25 tons per acre-foot of stream water. The major drainages in the Raymond Mountain WSA are: Thomas Fork (11,397 acres in the WSA), Raymond Creek (16,162 acres in the WSA), and Smiths Fork (6,879 acres in the WSA). Some flood damage has occurred along perennial waters in the WSA.

There are no stream gauging stations in the WSA. There is one stream gauging station just outside the northern boundary of the WSA. Reliable water quality or quantity data are not available to analyze the suitability of these waters for various uses. Few known water quality problems exist. However, trend data indicate deteriorating conditions are present in some streams.

Potential problems associated with the present uses in the WSA are a loss of streambank vegetation and reductions in channel stability. The principal cause of vegetation loss, channel instability, and the resultant erosion is the concentration of livestock use in bottom lands, due to steep terrain. Increased pressure from recreationists also impacts vegetation and leads to increased erosion and stream sedimentation.

Forestry Resources

The WSA contains 1,500 acres of Douglas fir, 1,200 acres of subalpine fir, and 1,700 acres of aspen. These acreages represent 36 percent of the Douglas fir; 23 percent of the subalpine fir; and 31 percent of the aspen available in the Kemmerer Resource Area.

Several forestry plots were studied to determine commercial volumes of timber. Two of these plots are classified as sawtimber and the remaining plots are classified as poletimber. The two sawtimber plots indicate that much of the volume is on steep slopes (80 to 90 percent). Retrieval of sawtimber from these slopes for commercial purposes, with current local logging practices, would not be economically feasible.

Harvesting of the timber in the WSA would be dependent on market price and the economic feasibility of extraction. The steep slopes could be logged; however, it would be very costly with present logging technology.

The presence of insect and disease infestation could accelerate the initiation of logging within the WSA. The Forest Service conducted aerial surveillance of the forest lands adjacent to and within the WSA. Their observations indicate a 5 percent mortality rate. If this mortality rate rose to 15 percent, BLM would consider logging in the WSA.

Wildlife

The Raymond Mountain WSA provides excellent wildlife habitat (see Map RM-2) for a variety of wildlife species. The WSA contains 13,530 acres of the Raymond Mountain Wildlife Area of Critical Environmental Concern (ACEC) (see Map RM-1).

Terrestrial

The Raymond Mountain WSA serves as habitat for mule deer, elk, and moose. Approximately 75 percent of the WSA is classified as crucial winter range for elk. This habitat is especially important during severe weather conditions, when deep snow forces elk to use windblown ridges and lower elevations due to snow depth. Aerial surveys by the Wyoming Game and Fish Department in February 1988 located 546 elk on Raymond Mountain, indicating an actual winter population of 600 to 700 elk.

Mule deer use the entire WSA as summer range or yearlong habitat. The southwestern portion (approximately 20 percent of the WSA) falls within mule deer crucial winter range. A small portion of the WSA is classified as winter/yearlong habitat and is normally used during mild winters and as spring-fall range. Recent surveys (1985 to 1988) indicate that approximately 500 mule deer use Raymond Mountain during the winter.

Moose use the WSA on a yearlong basis, and nearly the entire WSA is classified as crucial moose winter range. Aerial surveys in February 1988 counted 57 moose on Raymond Mountain, indicating an actual population of approximately 100 to 200 moose.

The Raymond Mountain WSA (34,456 acres) constitutes 22 percent of the 156,672-acre elk hunt area; 22 percent of the 156,672-acre mule deer hunt area; and 3.2 percent of the 1,085,080-acre moose hunt area.

Resident gamebirds using the WSA include sage, blue, and ruffed grouse. Waterfowl use is

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limited to the beaver pond complexes found on Raymond and Mill creeks and Huff Lake. Species include mallard, pintail, shoveler, American widgeon, gadwall, and green-winged and cinnamon teal. Sandhill cranes occasionally use these ponds for nesting habitat. Raptors include red-tailed hawk, ferruginous hawk, golden eagle, goshawk, prairie falcon, sharp-shinned hawk, and Cooper's hawk.

Numerous species of small mammals (game, furbearing, and nongame), amphibians, reptiles, and invertebrates occur within the WSA.

Aquatic

Huff, Raymond, and Coal creeks support populations of genetically pure Bonneville (Bear River) cutthroat trout (*Salmo clarki Utah*), a species designated as sensitive by BLM and rare by the Wyoming Game and Fish Department and is proposed for listing (Candidate 2) by the U.S. Fish and Wildlife Service. Fisheries and aquatic habitat information is extensively addressed in the Thomas Fork Habitat Management Plan which was implemented in 1979. A trout survival enclosure was constructed on Huff Creek to protect aquatic habitat. The WSA is within the boundaries of the habitat management plan.

Threatened and Endangered Species

Bald eagles, peregrine falcons, and whooping cranes, officially listed by the U.S. Fish and Wildlife Service as endangered species, may occur in the WSA. Bald eagles have been observed in the WSA; however, no nesting sites are known. Most sightings were during the winter, although a bald eagle was observed in Raymond Canyon on June 1, 1978. Another was observed in the canyon in the spring of 1984. Although peregrine falcons have not been observed within the WSA, Raymond Mountain has a high potential for natural or introduced populations due to its close proximity to foraging habitat, and remote nature with suitable cliff nesting sites. Whooping cranes have been observed flying through the Bear River Valley (west of the WSA) during the summer and during the spring and fall migration.

Wilderness Values

The BLM inventoried the Raymond Mountain area and all contiguous public lands for wilderness characteristics. On the basis of the intensive inventory, the Bureau determined that the Raymond Mountain WSA met the criteria established

in Section 2(c) of the Wilderness Act of 1964. The findings of the wilderness inventory for each of the four mandatory wilderness characteristics may be summarized as follows:

Size

The WSA contains 32,936 acres of public land, 1,320 acres of state land, and 200 acres of private land. A six-mile road penetrates the northern boundary and terminates at Huff Lake. The road is excluded, or cherrystemmed, from the WSA (see Map RM-1).

Naturalness

The WSA contains several minor imprints of man including a communication site with access road; several small phosphate exploration sites; two abandoned well sites; a road which penetrates the WSA along Huff Creek to some private land; several two-track trails; and evidence of livestock trailing. These intrusions, when viewed in the context of the entire WSA, are essentially unnoticeable.

Outstanding Opportunities

Because of the steepness of the terrain and the accompanying vegetation, an outstanding opportunity for solitude exists throughout the WSA. There are many secluded spots which permit undisturbed recreation. The WSA is suited to cross-country skiing, snowshoeing, hiking, backpacking, fishing, hunting, horseback riding, climbing, nature photography, bird-watching, and sightseeing. The opportunity for these activities is considered outstanding in relation to other areas in the region.

Primitive camping occurs along Raymond Creek at existing rock fire rings. Other primitive camping areas are west of Huff Creek and in White Canyon. They are primarily hunting campsites. People who participate in hiking and backpacking may also engage in nature study. Most horseback riding occurs in Raymond Canyon, the southern pack trails, and White Canyon. There are no visitor facilities in the WSA.

Sightseeing occurs separately and in conjunction with other recreational activities such as hiking, fishing, and picnicking. It is usually accompanied by motorized recreation. Opportunities for vista views of the Bear River Valley, Smiths Fork drainage, the Tump Range, and the Salt River Range are common. The WSA has high scenic values and provides good opportunities for geologic sightseeing.

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Supplemental Values

The area has numerous supplemental values which enhance the wilderness qualities. The abundant and diverse wildlife species (including the rare Bonneville cutthroat trout), the great botanical diversity, abundant species of wild flowers, unusual geologic formations, and numerous viewpoints from which outstanding scenery can be enjoyed are the primary supplemental values.

Recreation Opportunities

Specific visitor use data are not available for the Raymond Mountain WSA; however, estimates on levels of use were made from field observations, public comments, and existing information. The WSA contributed approximately 1 percent or 1,250 of 134,118 visitor-days (hunting and fishing) in the Kemmerer Resource Area. The area provides other opportunities such as camping, horseback riding, hiking, snowmobiling, picnicking, and sightseeing (375 visitor-days annually).

Visitors to the WSA come primarily from the nearby towns of Raymond, Geneva, and Cokeville. They participate in fishing in the spring, summer, and fall; and hunting in the fall, using the primitive, dispersed campsites. Several out-of-state hunting parties use the WSA, but usually in conjunction with local hunters. Six outfitters use the WSA annually for big game hunting.

The primary recreation activity is the hunting of moose, elk, deer, and grouse. Elk and moose hunting are considered excellent, and deer and grouse hunting are considered good. Hunting occurs throughout the WSA, including the ridges, canyons, and hillsides.

The data below represent 1987 data for hunt area 136, which includes the Raymond Mountain WSA. The WSA is 22 percent of the hunt area for elk and mule deer. Based on 1987 estimates, approximately 417 hunter-days were spent in the Raymond Mountain WSA for deer. About 25 percent of the deer hunters were nonresidents of Wyoming. The 1987 mule deer hunt yielded an estimated 52 bucks and 21 does. The WSA received an estimated 406 hunter-days for elk and yielded 4 mature bulls, 5 spike bulls, 8 cows, and 1 calf. Approximately 10 percent of elk hunters were nonresidents of Wyoming. State law requires that a nonresident hunter must have a State-licensed guide in a wilderness area. Six guides operate under BLM permit in the Raymond Mountain area.

Fishing occurs on Huff and Raymond creeks, and is considered good. These creeks receive 400 visitor-days per year. The primary game fish is the Bonneville (Bear River) cutthroat trout, which are

small but plentiful. Special regulations limit the take to fish 10 inches or greater using artificial lures only.

Snowmobiling in the WSA is excellent (100 visitor-days annually). It occurs mainly on existing roads, ways, and trails. Some trapping occurs in the WSA, closely associated with snowmobiling.

Environmental Consequences

The likelihood for drilling a productive well is 30 percent. This does not mean there is a 30 percent likelihood that the area's oil and gas resources will be developed. It means that 30 percent of wells drilled may be producing wells, a moderate percentage. It indicates the priority industry may place on exploration in the area.

Impacts of the Proposed Action (All Wilderness)

The Proposed Action would be that all 34,456 acres of the Raymond Mountain WSA be recommended as suitable for wilderness designation. There are no existing oil and gas leases in the Raymond Mountain WSA, and there would be no future leasing. Therefore, there would be no surface disturbance associated with the development of oil and gas resources.

Impacts to Oil and Gas Exploration and Production

The recoverable reserves in the Raymond Mountain WSA are estimated to be 39 billion cubic feet (BCF) of gas. There are no existing oil and gas leases in the WSA and leasing would not resume if the WSA is designated wilderness. If the WSA is designated wilderness, the entire potential production of 39 BCF of gas would be foregone. The opportunity to explore for oil and gas resources would also be foregone.

Conclusion. If the WSA were designated wilderness, there would be no oil and gas production from the WSA itself. Potential production foregone would be approximately 39 BCF of gas. This compares to potential reserves in the area of secondary potential in the thrust belt covering 5,760 sections (square miles) of 14,400 BCF of gas.

Impacts to Water Quality

Water quality throughout the WSA would improve. The elimination of motor vehicles in the WSA would help to stabilize streambanks at

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stream crossings, reducing erosion and sedimentation. Water runoff would decrease as soil compaction from motor vehicles decreases, resulting in improved water quality for some areas. The overall reduction in access to the area and the watershed would help to maintain and improve water quality by increasing vegetation cover and soil stability. Overall, the level of accelerated erosion and sedimentation would be reduced slightly below current levels.

Some of the habitat improvement projects (e.g., livestock enclosures, water developments, and instream structures) would help to reduce erosion and sedimentation below current levels.

Conclusion. Water quality in the WSA would improve to an unknown degree because surface-disturbing activities would be excluded and some habitat improvement projects (consistent with the nonimpairment criteria) would be implemented. Some of the habitat improvement projects would help to reduce erosion and sedimentation, thereby improving water quality in perennial streams within the WSA.

Impacts to Timber Production

Vegetation (including forest resources) would be protected in the entire WSA. No forest products would be harvested. The WSA would not serve as a source of timber, firewood, or Christmas trees. The current annual yield from the Bridger-Teton National Forest nearby is 20 million board feet. The yield in forest products that would be foregone if the WSA were designated wilderness (26,500 board feet annually) could easily be accommodated elsewhere from the BLM Rock Springs District or from the Bridger-Teton National Forest. The same is true for the firewood that would be foregone from the WSA (approximately 2.5 acres annually).

Individuals seeking forest products such as firewood and Christmas trees would not have to travel very far to reach a readily available source from public or national forest lands.

Conclusion. If the WSA were designated wilderness, no forest products would be harvested and 530,000 board feet of forest products would be foregone over the next 20 years (26,500 board feet annually). However, this would not result in a lack of supply of forest products because it accounts for only 0.13 percent of the annual timber production from the nearby Bridger-Teton National Forest.

Impacts to Wildlife Habitat and Populations

The lack of human activity associated with oil and gas exploration and development and vehicle

dependent recreation would benefit wildlife and wildlife habitat. Crucial big game winter range would be fully protected from surface disturbance and human activity associated with such disturbance. The adverse impacts to adjacent private lands would be minimized by insuring that the native range within the WSA is undisturbed and big game animals are not displaced. Hunting pressure and available winter range would keep big game populations at approximately the same numbers.

Habitat for the Bonneville (Bear River) cutthroat trout would be protected because no development that could affect the watershed, and adversely affect the fish, would be allowed. Livestock use would continue. Livestock would continue to concentrate in bottom lands, due to the steep terrain in the ACEC. This would continue to result in accelerated erosion and sedimentation. Motor vehicle use would be prohibited within the WSA, eliminating, for the most part, the disturbance to big game and the aquatic habitat caused by vehicles crossing streams. This would minimize sedimentation into streams and its associated adverse impacts to the fish. Prohibiting timber harvesting and vegetation manipulation would allow natural succession of the ecosystem.

Raptor nesting areas would be protected from disturbance and raptor nesting success would be enhanced.

No threatened or endangered species would be affected. Potential peregrine falcon habitat would be protected in a natural state, allowing for reintroduction by natural or artificial means.

Conclusion. If the WSA were designated wilderness, big game would be protected because of the protection of big game winter range and the reduced human activity which could displace the animals. Undisturbed winter range would help to maintain big game numbers. Habitat for the Bonneville (Bear River) cutthroat trout would be maintained because of the preclusion of surface-disturbing activities.

Impacts to Wilderness Values

Since there are no existing oil and gas leases in the WSA and no new leases would be issued, there would be no disturbance from oil and gas activities. No timber harvesting would take place. Off-road vehicles (ORVs) would be prohibited. The area's naturalness and supplemental values would be preserved. Solitude would be maintained because of the lack of development activities and motor vehicle use.

Existing intrusions would be unnoticeable in most of the WSA because of the topography, thereby retaining the area's naturalness. The only

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areas affected would be on the periphery of the WSA. Scenic values would be retained and the WSA would remain essentially natural in character. The cherrystemmed road to Huff Lake would, to a minor degree, affect the natural character and result in noise in nearby areas of the WSA. However, it would improve access into interior sections of the WSA, making the WSA experience accessible to more people.

Conclusion. If the WSA were designated wilderness, wilderness values in the WSA would be retained due to the lack of development activities and the elimination of motor vehicle use.

Impacts to Recreation Opportunities

The elimination of motor vehicles would eliminate the use of snowmobiles (approximately 100 visitor-days annually). Such use is currently allowed almost every year. It is anticipated that the 100 visitor-day per year reduction would occur 8 out of every 10 years. The remaining 2 years would be years in which the closure to snowmobiles would have been implemented. Therefore, the loss in those years is not attributable to wilderness designation.

The current use of approximately 400 visitor-days annually for fishing would remain the same. The use of the WSA for hiking and horseback associated recreation would remain the same.

In both the short and long term, hunting would also remain about the same since the access provided by the cherrystemmed roads would remain and use would continue at current levels. The levels of use by hunters using outfitters would remain the same.

Other recreation opportunities would be enhanced, some substantially (e.g., the opportunity to experience solitude). The number of people using the WSA for various recreation purposes, other than hunting and snowmobiling, is 350 to 400 annually. This use is not expected to change if the WSA were designated wilderness.

Conclusion. If the WSA were designated wilderness, there would be a loss in recreation opportunities for activities which use snowmobiles. The most important of these losses would be 100 visitor-days of snowmobiling during most years. Users would be displaced to nearby areas which are adequate to supply these demands. Others recreation users of the WSA would perceive an increase in the quality of the recreation experience because their activities (e.g., fishing, picnicking, photography) would be enhanced by the lack of motorized vehicles and development activities.

Impacts of the Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 34,456-acre Raymond Mountain WSA be recommended as suitable for wilderness designation. There would be a potential for 43 wells to be drilled in the WSA, resulting in 301 acres of surface disturbance. Approximately 25 to 30 miles of new road would be constructed to reach oil and gas well sites.

Impacts to Oil and Gas Exploration and Production

The recoverable reserves in the Raymond Mountain WSA are estimated to be 39 billion cubic feet (BCF) of gas. Because of steep slopes prevalent in the area and the restrictions on exploration and development activities, these resources would likely be developed over the long term, rather than in the immediate future. Any development that takes place would likely be over several years. Therefore, the oil and gas resources recovered would be recovered over a longer period of time than the estimated 30-year production period for a single well.

Industry would be required to reclaim all unused areas disturbed as a result of oil and gas exploration and development activities. For dry holes, the area disturbed would remain at least partially disturbed for 3 to 5 years. For producing wells, the reclamation on approximately half (3.5 acres) of the disturbance for each well would be initiated in 3 to 5 years. The reclaimed area would not provide wildlife habitat approaching predisturbance conditions for another 10 to 15 years. The remaining 3.5 acres would not be reclaimed until production from the well ceases (approximately 30 years after drilling).

Conclusion. If the WSA were not designated wilderness, 39 BCF of gas would be recovered from the WSA. This compares to potential reserves in the area of secondary potential in the thrust belt covering 5,760 sections (square miles) of 14,400 BCF of gas.

Impacts to Water Quality

Most of the problems associated with water quality would continue at present levels. Water runoff would remain at current levels due to soil compaction and vegetation loss associated with livestock and wildlife use of riparian areas in the WSA. Riparian habitat would continue to maintain its poor condition or decline unless grazing man-

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agement is improved. Under nonwilderness, stipulations would be included in oil and gas leases to protect riparian habitat. The "no surface occupancy within ¼ mile of perennial streams" stipulation in the Raymond Mountain Wildlife ACEC would help protect riparian habitat. However, the surface disturbance created by oil and gas activities would cause additional erosion and sedimentation from disturbed areas until vegetation cover is established by reclamation (3 to 5 years after initial disturbance). Logging activities would also cause increased erosion and sedimentation in the perennial streams within the ACEC. Most of the harvestable timber in the WSA would be harvested from within the ACEC (75 percent or 75 acres) where the potential problems for increased sediment entering the perennial streams is the greatest.

The greatest potential for reduced water quality would occur when a large amount of activity occurs at the same time. The rate of development for oil and gas and the timing of logging activities when oil and gas activity is low would help to mitigate the problem and reduce the adverse impacts on water quality. The implementation of habitat improvement projects (e.g., instream structures, livestock enclosures) would provide additional mitigation for increased sedimentation. However, a reduction in water quality would be anticipated due to the increased disturbance.

Water supplies for oil and gas activities would be provided through drilling of water wells or by trucking in water from outside the WSA. Therefore, the use of water by oil and gas operations would not affect water quality or quantity.

Conclusion. There would be a reduction in water quality (increase in erosion and sedimentation) in the perennial streams within the WSA due to the increased surface disturbance created by oil and gas activities and logging operations. The magnitude of the potential adverse impact to water quality would be reduced by controlling the rate of oil and gas development and the timing of logging activities to minimize the cumulative acreage of disturbed areas (which result in increased erosion and sedimentation) at any one time.

Impacts to Timber Production

Oil and gas exploration and development activities are expected to cause some temporary loss of vegetation. Vegetation (including forest resources), when viewed as a natural resource, would be adversely affected on 301 acres directly affected by well sites and access roads. Rehabilitation would restore grasses in two to four years and pre-existing woody vegetation in the very long term.

Some timber harvest would be allowed and public demands for forest products such as fuelwood, posts and poles, Christmas trees, and house logs would be met from the WSA. Approximately 530,000 board feet of timber and 50 acres of quaking aspen would be harvested over the next 20 years. This compares to an annual production from the Bridger-Teton National Forest (which is nearby) of 20 million board feet. If these resources are made available from the WSA, neither the local demand, nor the ability of nearby resources to satisfy that demand, is expected to change.

The timber resources recovered from the WSA would include approximately 50 acres of Douglas fir (timber) and 50 acres of quaking aspen (firewood). The Douglas fir would produce approximately 530,000 board feet of forest products (26,500 board feet annually).

Conclusion. If the WSA were not designated wilderness, some forest resources would be lost, due to disturbances from oil and gas activities, until the pre-existing stands were re-established (in the very long term). Additionally, there would be 530,000 board feet of forest products harvested from the WSA over the next 20 years (26,500 board feet annually). This compares to 20 million board feet harvested annually from the nearby Bridger-Teton National Forest.

Impacts to Wildlife Habitat and Populations

Seasonal stipulations restricting construction and drilling activities during the crucial winter period (November 15 to April 30) would minimize the effective habitat lost. Erosion control measures which would be incorporated into exploration and development proposals would help reduce adverse impacts to the Bonneville cutthroat trout.

There would be 301 acres of surface disturbance in the WSA due to oil and gas activities (70 acres of this would occur within the Raymond Mountain Wildlife ACEC) and 100 acres disturbed due to timber harvesting (75 acres in the ACEC). Restrictions on motor vehicle use and oil and gas activities during the crucial period would reduce adverse impacts to elk and other big game species by reducing human activities during this period. Mineral development would increase disturbance to the native winter range for big game which inhabit the WSA during the winter (600 to 700 elk, 500 mule deer, and 100 to 120 moose) and increase damage to adjacent private stockyards and haystacks when the animals are displaced to these areas. Some animals would be displaced to adjacent winter range areas, while others would move to private lands. There would not be full compensation for all direct and indirect habitat lost to oil and gas activities.

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The most important winter habitat for the elk is in the Raymond Mountain Wildlife ACEC, where steep slope and other restrictions on surface-disturbing activities (e.g., unstable soils, within 500 feet of live water, seasonal restrictions) would minimize adverse impacts to the elk during the crucial winter period. The estimate that 10 wells would be drilled in the ACEC means that construction and drilling, which result in the greatest degree of avoidance by big game, would occur up to 10 of the next 20 years. Big game may avoid such disturbance and move $\frac{1}{2}$ to one mile away. Elk generally move a greater distance away from human disturbance than do mule deer. The distance big game moves away is also generally greater for a drilling well than for a producing well. In the ACEC, this distance may be reduced if it occurs on the opposite side of the drainage, as long as the activity is screened from view by intervening terrain.

If the 401 acres directly affected by oil and gas and forestry activities in the WSA were all in winter range, 10 to 20 percent of the big game numbers would be displaced from the WSA itself. They are not expected to be affected in the hunt area of which the WSA is a part. This conclusion is reached because the total acres disturbed (401 acres), is relatively small compared to the total hunt area, as well as the acreage of crucial winter range, and this area would be affected over the next 40 to 50 years. However, the animals would be displaced from areas where human activity is occurring. The displaced animals would include approximately 100 elk, 75 mule deer, and 15 moose. Up to 60 percent of displaced big game may move to private lands. The effects of displacement due to oil and gas activities would be minimized by using seasonal stipulations to reduce or eliminate the amount of activity that takes place during crucial periods when the animals are subject to greater stress.

Existing yearlong two-track trail closures in the Raymond Mountain Wildlife ACEC (Raymond Canyon, White Canyon, and two trails off of the IGO Speedway) would minimize disturbance to wildlife by vehicles. The closure to snowmobiles would be beneficial to elk by eliminating human presence during critical periods. Surface disturbance alone would result in no more than a 10 percent reduction in big game habitat in the WSA. However, the human activity associated with the disturbance may cause big game, especially elk, to become displaced from the WSA. Studies have shown that elk are displaced from habitat up to one mile from human disturbance. Since suitable winter range is the primary limiting factor for big game, and existing winter ranges are at capacity, this disturbance would cause increased depredation of adjacent private lands.

Because logging within the WSA would increase the understory, the quantity and diversity of big game browse may be increased. Because of the small acreage of forest products expected to be harvested (100 acres), and the regeneration expected to take place, the elimination of cover is not expected to adversely affect the elk. This would cause the animals to avoid the area affected by logging activities.

Oil and gas activities would cause isolated adverse impacts to aquatic habitat by increasing erosion and sedimentation in sensitive fish habitat. However, the Raymond Mountain Wildlife ACEC encompasses the watershed of the WSA, providing protection to the Bonneville (Bear River) cutthroat trout. The existing closure of the Raymond Canyon Trail would enhance aquatic and spawning habitat through reduced stream-bank erosion and reduced siltation. Habitat would continue to improve under the existing of the Thomas Fork Habitat Management Plan.

Construction associated with oil and gas activity would increase the sediment and nutrient load in some drainages. An increase in contaminants could also occur. Erosive areas, such as steep slopes, are precluded from field development and, therefore, would not be a major contributing factor. Surface water quality would not be maintained in Huff and Raymond creeks due to the oil and gas activities which would increase erosion and sedimentation.

Habitat for the Bonneville (Bear River) cutthroat trout would experience some decline as water quality declines due to increased erosion and sedimentation caused by surface-disturbing activities. If a large number of wells are drilled simultaneously, and there is a larger acreage disturbed and not yet reclaimed, there would be increased erosion and sedimentation. This would occur because disturbed areas, prior to reclamation, would not have sufficient vegetation cover to reduce erosion and sedimentation. The decline in water quality may result in a decline in fish populations sufficient to result in the designation of the Bonneville cutthroat trout as a threatened and endangered species. If the rate of development is controlled so that fewer acres are disturbed (which may affect the drainages) at any one time, the cumulative effects of increased erosion and sedimentation would be reduced and there may be no need to designate the Bonneville cutthroat trout as a threatened and endangered species.

Conclusion. If the WSA were not designated wilderness, oil and gas exploration and development activities would cause adverse impacts to big game crucial winter habitat within WSA and reduce big game numbers by 10 to 20 percent in the WSA itself. Big game may be displaced, in

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part, onto private lands. Habitat for the Bonneville (Bear River) cutthroat trout would experience some decline as water quality declines due to increased erosion and sedimentation caused by surface disturbing activities. If a large number of wells are drilled simultaneously, the decline in water quality may result in a decline in fish populations sufficient to result in the designation of the Bonneville cutthroat trout as a threatened and endangered species. Control of the rate of development would help to mitigate this problem.

Impacts to Wilderness Values

Under nonwilderness, the primary objectives for the Raymond Mountain WSA would be to maintain the quality of the dispersed outdoor recreation experience and to provide for the protection of wildlife values. While other activities would be allowed, they would be conditioned so as to maintain the quality of the recreation experience.

In the portion of the WSA outside of the Raymond Mountain Wildlife ACEC, naturalness and solitude would be adversely impacted because of the additional disturbance and human presence. Naturalness and supplemental values would be preserved somewhat in the ACEC (13,530 acres) because the physical problems associated with construction on steep slopes and in wet areas would limit the number of wells that would be located in the heart of the ACEC. The major objectives of the ACEC are to protect big game crucial winter habitat and the habitat for the Bonneville (Bear River) cutthroat trout. Most, if not all, of the 10 wells located in the ACEC would be located on the periphery of the ACEC.

The naturalness and supplemental values within the ACEC would be mostly preserved. However, some of the area's solitude would be lost due to development activities that would take place outside of the drainage in the Raymond Mountain Wildlife ACEC.

Naturalness in the Raymond Mountain Wildlife ACEC would be enhanced by off-road vehicle limitations and the proposed two-track trail closures. However, oil and gas activities and timber management activities would adversely affect naturalness in the rest of the WSA. The harvest of quaking aspen, which constitutes 50 percent of the 75 acres harvested, would affect naturalness in the ACEC for only 2 to 3 years following harvest. The remaining acreage to be harvested in the ACEC would affect naturalness for 15 to 20 years until the evidence of the disturbed area is substantially unnoticeable. Opportunities for solitude would decrease in the WSA. Although the steep terrain offers outstanding opportunities for solitude, oil and gas seismic activities are easily observed and heard from canyon bottoms, as well as ridgetops.

Hiking, sightseeing, and horseback riding may increase slightly because of the increased access, but the quality of the experience would be lowered because of the increased disturbance from oil and gas activities.

Conclusion. If the WSA were not designated wilderness, the wilderness values in the WSA would be substantially reduced due to oil and gas activities on 401 acres and associated noise and human activity. Oil and gas activities would result in a loss in naturalness and solitude on about 301 acres. Timber harvesting activities on 100 acres would also result in a loss in naturalness and solitude until reforestation takes place. However, in areas adjacent to perennial creeks, much of the wilderness values would be retained. The steep slopes and management restrictions used in these areas would limit access and disturbances in these areas and retain their naturalness and supplemental values and most of their solitude.

Impacts to Recreation Opportunities

Recreation opportunities in the WSA would remain about the same in the short term. Up to 4 wells would be drilled in the next 10 years in the Raymond Mountain Wildlife ACEC. Hikers, campers, anglers, and photographers would experience about the same quality experience as at present in the ACEC. However, the quality of the experience for these same types of recreation users outside of the ACEC would decline due to increased disturbance, human activity, and access roads.

Hunting would remain at approximately current levels. As additional exploratory wells are drilled and production begins, the quality of the hunting experience would decrease. Hunter success would also decrease as big game are displaced from a larger area. This would reduce the number of hunter-days spent in the WSA by approximately 25 percent in the long term.

Additional roads constructed for oil and gas exploration and development (outside the ACEC) would increase access to the WSA. This may increase opportunities for fishing but would decrease the quality of the recreation experience for most users.

The opportunities for snowmobiling would remain at current levels. Winter closures would be implemented if they are deemed necessary by BLM and the Wyoming Department of Game and Fish (about 1 of every 3 years).

ORV limitations and two-track trail closures would restrict ORV recreation opportunities year-round. Hunting would decrease by 25 percent (220 hunter-days annually) in the short term as traditional hunting camps would be more difficult to

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reach with closure of the 4 two-track trails (Raymond Canyon, White Canyon, and two trails off of IGO Speedway).

The protective measures in the ACEC and the seasonal ORV closure would increase hunting opportunities in the long term (as oil and gas exploration stops and production begins). Hunting opportunities would also improve as a result of the seasonal closure to surface disturbance, which would minimize disturbance to wildlife during the hunting season. However, oil and gas roads would not be kept open if wells are not producers. This would serve to keep access at current levels.

Camping would be expected to decrease, and snowmobiling would decrease due to the seasonal ORV limitations. The closure to snowmobiles would limit recreation opportunities in the WSA during the winter. People using snowmobiles would move to other areas which are adequate to support their numbers (100 visitor-days annually).

Conclusion. If the WSA were not designated wilderness, recreational opportunities and use levels would probably remain about the same in the short term. In the long term, oil and gas activities would decrease hunting quality and increase access to parts of the WSA. Closures to motor vehicles are already in place; therefore, no opportunities would be reduced in vehicle-dependent recreation because of the closures. Snowmobile use would remain at current levels of 100 visitor-days per year, almost every year. Other forms of recreation would not be affected in terms of use levels, but the quality of the recreation experience would be lower for some users (e.g., picnickers, hikers, photographers, campers, anglers) due to the greater accessibility leading to a shift toward vehicle-oriented recreation.

BUFFALO HUMP WSA

Summary Description and Background

This WSA is in north-central Sweetwater County about 30 miles north of Rock Springs. The WSA is approximately 5 miles long by 4 miles wide, and contains 10,300 acres (Map BH-1). During the intensive inventory, 400 acres of public land were added to the original unit, while 120 acres of state land and 180 acres of private land were excluded from the WSA boundary. In the Buffalo Hump WSA, 3,072 acres are also included in the 41,400-acre Greater Sand Dunes Recreation Area of Critical Environmental Concern (ACEC).

Proposed Action and Alternatives

The three alternatives analyzed in detail were: (1) to recommend that part of the WSA is suitable for wilderness designation (Proposed Action-Partial Wilderness), (2) to recommend that the WSA is not suitable for wilderness designation (No Wilderness) (3) to recommend that the WSA is suitable for wilderness designation (All Wilderness).

Proposed Action (Partial Wilderness)

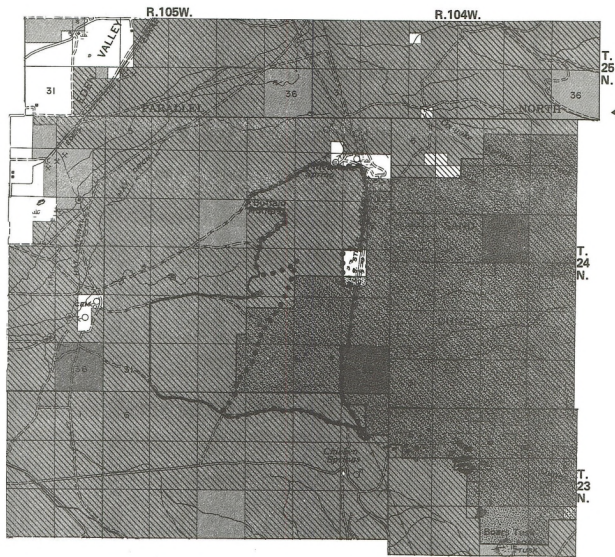
The Proposed Action would be that 6,080 acres of the 10,300-acre Buffalo Hump WSA plus an additional 226 acres (6,306 acres total) be recommended as suitable for wilderness designation. This alternative include 226 acres that were not included within the boundary of the WSA in the wilderness inventory. This minor modification includes 63 acres of State land and 163 acres of private land on the eastern boundary of the WSA. These lands were included in this new alternative, in part, because they increase the manageability of the Partial Wilderness. As indicated under Assumptions and Analysis Guidelines in Chapter 1, for analysis purposes, it is assumed that these lands would be acquired. If the Partial Wilderness alternative is designated, acquisition of these lands would be sought. The remainder of the Buffalo Hump WSA (4,220 acres) would not be recommended for designation as wilderness. No oil or gas exploration or production is anticipated in the WSA.

The area recommended for designation includes approximately 2,675 acres in the Greater Sand Dunes Recreation ACEC. In the rest of the WSA (4,220 acres), there would be 397 acres under special management in the Greater Sand Dunes Recreation ACEC.

Oil and Gas Management

There are no pre-FLPMA oil and gas leases in the Buffalo Hump WSA. New oil and gas leases issued in the area recommended for nondesignation, would contain stipulations to protect sage grouse leks and to restrict surface disturbance within 500 feet of live water.

Area Recommended for Designation. Unleased land in the area recommended for designation (6,306 acres) would not be leased.



- Wilderness Study Area Boundary
- Proposed Wilderness Boundary
- Proposed Action
- Excluded Area
- Greater Sand Dunes Recreation ACEC
- Public Land (Administered by BLM)
- Private Land
- State Land
- Federal Minerals

Map BH-1
Buffalo Hump WSA
LAND AND MINERAL STATUS

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Area Not Recommended for Designation. Unleased land part of the Buffalo Hump WSA not recommended for designation (4,220 acres), would be open to oil and gas leasing. However, no oil or gas exploration or production is anticipated because recoverable reserves are estimated as zero. Surface-disturbing activities would be restricted within 500 feet from the deeper ponds (over one foot deep).

Solid Minerals Management

There are no known locatable minerals; therefore, no activity is expected.

Area Recommended for Designation. No activity related to salable, leasable, or locatable minerals would be allowed. The primary salable mineral of concern would be sand. There are ample supplies available from existing sources in the area to meet existing and anticipated future needs. There are no known leasable or locatable solid mineral in the WSA.

Area Not Recommended for Designation. Mineral extraction for salables would be allowed subject to surface protection and rehabilitation requirements to protect other resources. However, no such activity is anticipated because the main salable mineral that could be obtained from the WSA is sand, and there is sufficient availability of sand from existing sources to meet demand. No activity related to leasable solid minerals is anticipated. Activity related to locatable minerals would be allowed, however, no such activity is anticipated.

Off-Road Vehicle Management

Area Recommended for Designation. The area recommended for designation (6,306 acres) would be closed to motorized vehicles. The railroad bed at the eastern boundary of the WSA would be closed to motorized vehicles. Access points would be blocked at various locations. The points where the sand would blow over the railroad bed would not be cleared.

Area Not Recommended for Designation. In the area not recommended for designation (4,220 acres), motorized vehicles would be limited to existing roads and trails.

Recreation Management

No developments associated with recreation are anticipated in the WSA. The existing recreation use of the WSA would remain the same.

Area Recommended for Designation. Nonmotorized hunting activities would be allowed. Hunter use would remain at approximately current levels since motorized vehicles are not currently allowed under the Interim Management Policy.

Area Not Recommended for Designation. Hunting would be allowed but hunters using motorized vehicles would be limited to approximately 35 miles existing roads and trails.

Grazing Management

Grazing management practices (Pacific Creek and Sands grazing allotments) would not change from those currently in place. Within the Buffalo Hump WSA, the estimated carrying capacity is 311 AUMs for cattle and 458 AUMs for sheep, with use occurring from May 1 to December 15. There are 2 range improvements within the WSA.

Motorized vehicles would not be allowed within the area recommended for designation, because the range improvements are adjacent to the boundary of the area recommended for designation and accessible by the boundary road.

Outside the area recommended for designation, motorized vehicles would be limited to existing roads and trails.

Wildlife Management

Existing habitat would be managed to maintain existing populations of wildlife.

A guzzler would be constructed on the west side of the WSA to benefit sage grouse and big game.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 10,300 acres of the Buffalo Hump WSA be recommended as suitable for wilderness designation. Oil and gas leasing would not resume. There would be no disturbance associated with oil and gas exploration and development. Motorized vehicles would be prohibited in the WSA.

Oil and Gas Management

The Buffalo Hump WSA would not be open to oil and gas leasing. There are no pre-FLPMA oil and gas leases in the Buffalo Hump WSA. Since none of the WSA would be leased, there would be no disturbance due to oil and gas exploration and development.

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Solid Minerals Management

There are no known locatable minerals; therefore, no activity is expected. No activity related to salable minerals would be allowed.

Off-Road Vehicle Management

The railroad bed at the eastern boundary of the WSA would be closed to vehicle travel. Access would be blocked at various points. The points where the sand would blow over the railroad bed would not be cleared.

Recreation Management

Hunting would be allowed, but motorized vehicles would be prohibited in the WSA. There would be 10 to 12 hunter days annually for antelope and 10 hunter days for sage grouse. Protection of wilderness values would be assured.

Grazing Management

As under the Proposed Action, grazing management practices (Pacific Creek and Sands grazing allotments) would not change from those currently in place. Within the Buffalo Hump WSA, the approximate grazing capacity for cattle is 311 AUMs and 458 for sheep. The use occurs from May 1 to December 15. There are 2 range improvements in the WSA. No additional range improvements are planned.

The range improvements (fences) in the western portion of the WSA would be maintained to Bureau standards by the permittee. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

No actions associated with wildlife management would be anticipated in the WSA. The guzzler to benefit sage grouse and big game, which would be constructed on the west side of the WSA under either of the other two alternatives, would not be constructed because it would have adverse effects on the naturalness of the area.

Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 10,300-acre Buffalo Hump WSA be recommended as suitable for wilderness designation. No oil or gas exploration or production is anticipated. Motorized vehicles would be limited to existing roads and trails and the railroad bed at the eastern boundary of the WSA.

Oil and Gas Management

There are no pre-FLPMA oil and gas leases in the Buffalo Hump WSA. The entire Buffalo Hump WSA would be open to oil and gas leasing. However, no oil or gas exploration or production is anticipated because recoverable reserves are estimated as zero. New oil and gas leases would be conditioned to prevent disturbance to sage grouse leks and to restrict disturbance within 500 feet of live water.

Solid Minerals Management

There are no known locatable minerals; therefore, no activity is expected. Mineral extraction for salables would be allowed subject to surface protection and rehabilitation requirements to protect other resources. However, no such activity is anticipated because the salable mineral of concern in the WSA is sand, and there are ample reserves available from existing sources to meet present and anticipated future demands. No activity related to locatable or leasable minerals is anticipated because there are no known locatable or leasable minerals in the WSA.

Off-Road Vehicle Management

Motorized vehicles would be limited to existing roads and trails and the 5.5 miles of railroad bed at the eastern boundary of the WSA. Generally, new roads would not be allowed within 500 feet of live water. The railroad bed on the eastern boundary of the WSA would be left open to motorized vehicles.

Recreation Management

Hunting would be allowed; however, motorized vehicles would be limited to existing roads and trails. No developments associated with recreation are anticipated in the WSA. The existing recreation use of the WSA (hiking, hunting, and pho-

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tography) would remain the same. There would be approximately 21 hunter-days annually for pronghorn antelope and 15 hunter-days annually for sage grouse.

Grazing Management

Grazing management practices (Pacific Creek and Sands grazing allotments) would not change from those currently in place. Within the Buffalo Hump WSA, the estimated carrying capacity is 311 AUMs for cattle and 458 AUMs for sheep, with use occurring from May 1 to December 15. There are 2 range improvements within the WSA. The use of motorized vehicles in support of livestock management activities would be limited to existing roads and trails.

Wildlife Management

A guzzler would be constructed on the western side of the WSA to benefit sage grouse and big game. Oil and gas operators would be required to reclaim areas no longer needed for oil and gas exploration and production. However, no such activities are anticipated because no known recoverable reserves are known to exist in the WSA. No actions would be taken to compensate for any habitat that may be lost as a result of oil and gas activities.

Affected Environment

The dominant use of the Buffalo Hump area is cattle grazing and sheep grazing, with some trailing for both cattle and sheep. The southern and eastern portions of the area receive some primitive recreation use (hiking, backpacking, photography, etc.), while off-road vehicle use and hunting occur mostly on the west side of the WSA.

Vegetation ranges from climax stands of big sagebrush and greasewood on the north and west, to active sand dunes and meadows on the east and south. The primary topographic relief consists of many sand valleys, blowouts, dunes, and hills which occur in the southern and eastern portions of the WSA. Individual sand dunes exceed heights of 100 feet. Interdunal areas on the northern and western extremities contain ponds, grass covered marshes, and playas. The area contains valuable big game habitat (elk, mule deer, and pronghorn antelope).

There are 3,072 acres in the Buffalo Hump WSA that are also in the 41,400-acre Greater Sand Dunes Recreation ACEC (see Map BH-1).

Mineral Resources

The most probable recoverable reserves estimated to exist within the 10,300-acre WSA is zero. The maximum recoverable reserves estimated to exist in the WSA is 53.5 billion cubic feet (BCF) of gas. The maximum recoverable reserves was calculated from figures in the "Wyoming Geological Association Guidebook, Greater Green River Basin Symposium." In that study, it was estimated there is 3.32 BCF of recoverable gas per 640 acres explored in the Green River Basin (15,046 square miles) in southwestern Wyoming. This amounts to total recoverable reserves in the Green River Basin of about 50,000 BCF of gas. The Green River Basin includes almost all of Sublette County, significant portions of Sweetwater and Uinta counties, and parts of Lincoln, Carbon, and Fremont counties.

There are no pre-FLPMA leases. There is one dry hole within the WSA. It is located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of section 22, T. 24 N., R. 105 W. The well tested the Ericson Member of the Mesaverde Formation to a depth of 7,997 feet. No results were reported in this 1971 wildcat test and the well was subsequently abandoned.

Wildlife

Valuable habitat for big game is found in the WSA. Elk (approximately 40 head) and mule deer (approximately 75 head) occupy the area during the summer, using the fresh water ponds, and Fifteen Mile Spring on the edge of the WSA. These animals linger in the area during the hunting season, using the broken topography and relative inaccessibility to their advantage. Deer may use the area during the winter, but elk generally migrate to the east during winter periods. About 200 pronghorn antelope move from their summer ranges, north of the WSA, onto western portions of the WSA for the winter.

The Buffalo Hump WSA (10,300 acres) constitutes 0.5 percent of the 1,999,076-acre Steamboat elk hunt area; 0.8 percent of the 1,295,248-acre Steamboat mule deer hunt area; and 1.2 percent of the 858,181-acre Eden pronghorn antelope hunt area.

Raptor habitat in the Buffalo Hump WSA is limited, due to a general absence of suitable nesting sites. Raptor inventories were conducted in this WSA (1981). Three nests were located. One golden eagle nest on Buffalo Hump and two ferruginous hawk nests.

Red foxes and coyotes use the WSA. Red fox habitat is generally limited to the western and

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northern portions of the WSA. Coyotes are common throughout the WSA. Bobcats also use the area, however, their occurrence is not considered common.

Several freshwater ponds are found in the eastern portions of the WSA, along the border with the Sand Dunes WSA. They range in depth from a few inches to 3 feet. Waterfowl use this habitat for breeding. This habitat could support up to 50 ducklings annually. Other waterfowl and shorebirds include white-faced ibis, killdeer, snowy plover, sandpipers, sage grouse, avocets, and common wading birds.

Hummingbirds arrive in the WSA in early August and leave for southerly climates by late August. Migrating passerine birds also increase in number around the ponds in late summer and early fall. Spadefoot toads, tiger salamanders, and wandering garden snake represent common amphibians and reptiles. There are no fish in the ponds.

Wilderness Values

The BLM inventoried the Buffalo Hump area and all contiguous public lands for wilderness characteristics as outlined in the BLM Wilderness Inventory Handbook (BLM 1978d). On the basis of the intensive inventory, the Bureau determined that the Buffalo Hump WSA meets the criteria established in Section 2(c) of the Wilderness Act. The findings of the wilderness inventory for each of the four mandatory wilderness characteristics may be summarized as follows and also apply to the additional 226 acres:

Size

This WSA totals 10,300 acres of public lands.

Naturalness

This WSA is essentially in a natural condition exhibiting an undisturbed sagebrush-grassland ecosystem intermingled with active sand dunes. Intrusions consist of five two-track trails and one seismograph line for a total of 5.5 miles; one segment of sand fence; and two dug livestock pit reservoirs. The two-track trails are faint, overgrown with vegetation, and dead end after short distances or connect with boundary roads. The livestock reservoirs are located along the southern boundary road. These intrusions are considered to have only minor impact on the integrity of the area.

The rails have been removed from the railroad bed which forms the eastern boundary of the

WSA. The bed is about 3 to 5 feet above ground level. From a distance away, within the WSA, the gravel bed is not visible. When a visitor looks east from the WSA, the Sand Dunes WSA is what would be seen. Currently, the railroad bed is used by four-wheel drive and some two-wheel drive vehicles.

Outstanding Opportunities

The remoteness of the area provides ample solitude, especially in the southern and eastern portions of the WSA due to topographic relief. The best opportunities for primitive and unconfined recreation can also be found in the southern and eastern portions of the WSA. These include hiking, backpacking, camping, bird-watching, wildlife photography, horseback riding, and hunting.

Supplemental Values

Ecological and cultural values are also found in the WSA. Ecologically, this area typifies a sagebrush-bunchgrass ecosystem featuring gently rolling, sagebrush-covered sand hills, with some active barren sand dunes. This area attracts wild horses, mule deer, a unique desert elk herd, large numbers of pronghorn antelope, and many species of birds. Raptors and coyotes are frequent visitors to the area. Reports of mountain lion sightings have been received.

Two very important archeological sites (Finley and Eden-Farson) were found within one and three miles, respectively, of the WSA. The Eden-Farson site is a late Prehistoric Period habitation site which has been well documented through excavation. Several house areas were located and a large amount of antelope bone was recovered. Portions of the site were preserved for future investigation.

The Finley site is an important paleo-Indian site investigated in the early 1940s. The association of Cody-complex artifacts with each other and with bones of extinct bison was first demonstrated here, and the site became well-known as the type site for Eden projectile points. Evidence indicated that the Finley site is one of man's earliest inhabited sites in North America.

The first homestead settlement of Eden Valley is on the northwestern fringe of the WSA. Known as Washington's Homestead, this historic location is marked by the graves of the Washington family, foundation remains, and a few remnant sections of fence. The Washington Homestead is near the Finley site (about 1 mile outside the WSA boundary). It is a National Register eligible property (as are Finley and Eden Farson). These site are partially on public and partially on private

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lands. Their presence close to the WSA indicate that areas close to the WSA were occupied by man.

Recreation Opportunities

Estimates of use for the hunt areas in which the Buffalo Hump WSA (10,300 acres) is located include 229 hunter-days in the 1,999,076-acre Steamboat elk hunt area; 1,832 hunter days in the 1,295,248-acre Steamboat mule deer hunt area; and 2,097 hunter-days in the Eden pronghorn antelope hunt area.

The hunter use in the Buffalo Hump WSA is for antelope (21 hunter-days annually) and sage grouse (15 hunter-days annually).

The railroad bed is used by visitors to access the northern portions of the WSA. Visitor use estimates are for only the one year the railroad bed has existed without rails. Approximately, 100 to 150 visitor use days are spent in the Buffalo Hump WSA from this point. About 10 to 15 of these visitor use days involve off-road vehicle recreation. Approximately 25 to 50 visitor use days are spent from other access points. Approximately 150 to 200 visitor use days are spent by individuals using the railroad bed to access other areas north of the WSA. For example, there is good sage grouse habitat adjacent to the railroad bed several miles north of the WSA. When the railroad was present, this habitat was not hunted. The removal of the rails created access which opened the area to sage grouse hunting both from the south (Rock Springs) and from the north (Farson).

There is some recreation use (approximately 50 visitor use days annually) for rockhounding in the northern portion of the WSA. This use is primarily for agatized wood.

Environmental Consequences

No likelihood for oil and gas activity is anticipated. This assumption is based on current exploration and geologic projections in the immediate area. There is one dry hole in the WSA (SE1/4NW1/4, section 22, T. 24 N., R. 105 W.). No results were reported and in 1971 this well was abandoned.

Impacts of the Proposed Action (Partial Wilderness)

The Proposed Action (Partial Wilderness) would be to recommend that 6,036 acres of the Buffalo Hump WSA is suitable for wilderness des-

ignation. There would be no oil and gas leases issued in the area recommended for designation and no surface disturbance associated with oil and gas exploration and development. Motorized vehicles would be prohibited in the 6,036 acres recommended for designation. An additional 63 acres of State land and 163 acres of private land is included in the analysis as part of the area recommended for designation.

Impacts to Oil and Gas Exploration and Production

Area Recommended for Designation. Unleased lands (6,036 acres) would not be leased. The opportunity to explore for oil and gas would be lost on this 6,306 acres. However, no production would be foregone because there are no known recoverable reserves of oil and gas in the WSA.

Area Not Recommended for Designation. Unleased lands (4,221 acres) would be available for lease. No oil and gas resources would be recovered from the WSA. Current information does not indicate a potential for the occurrence of oil and gas.

Conclusion. The opportunity to explore for oil and gas resources on 6,306 acres would be lost. However, no production would be foregone because there are no known recoverable reserves of oil and gas in the WSA. The opportunity to explore for oil and gas would be available on the remaining 4,221 acres in the WSA but no exploration or production is anticipated.

Impacts to Wildlife Habitat and Populations

Area Recommended for Designation. The elimination of motor vehicle use in the area recommended for designation (6,036 acres) would decrease the disturbance to wildlife, resulting in an improvement in habitat effectiveness on the 6,306 acres. The animals would not avoid the area due to disturbances caused by vehicles. The elimination of motor vehicle use from the WSA and the railroad bed at the eastern boundary would result in an estimated reduction of 250 to 350 vehicle trips annually. Human activity and noise would then be reduced, lessening displacement and avoidance of the area by big game. This would benefit big game and would be the most important beneficial impact that would occur under this alternative.

Big game numbers would not be affected because the area recommended for wilderness designation constitutes only a small portion of each species hunt area (0.3 percent for elk; 0.5 percent for deer; and 0.7 percent for antelope).

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Area Not Recommended for Designation. Motorized vehicle activity would continue to cause big game to avoid the western portion of the WSA (4,221 acres). Big game would avoid the area during periods of human and motorized vehicle activity. Existing trails in the remainder of the area would be used occasionally and at very low levels, rarely more than 4 to 5 vehicles on some days (and frequently none). This disturbance is not expected to affect big game numbers because the area not recommended constitutes only a small portion of each species hunt area (0.3 percent for elk; 0.3 percent for deer; and 0.5 percent for antelope).

The guzzler would be installed primarily to benefit elk. This would reduce stress from lack of water and improve summer survival. It would also increase survival for sage grouse chicks.

Conclusion. If part of the WSA were designated wilderness, there would be no disturbance due to oil and gas exploration and development because there are no known recoverable reserves. The railroad bed at the eastern boundary of the WSA would be closed to vehicle traffic. The total number of motorized vehicle trips into the area would be reduced by 250 to 350 annually. This would enable the WSA to provide better habitat for big game than it currently provides and reduce the effects of big game avoiding the area because of motorized vehicles. Big game numbers would remain at current levels (200 antelope, 40 elk, and 75 mule deer) using the WSA during all or part of the year. Even though habitat effectiveness would be enhanced, numbers would not increase because the WSA constitutes only small percentage of the hunt area for each species.

Impacts to Wilderness Values

Area Recommended for Designation. Wilderness values would be protected in the portion of the WSA recommended for designation WSA (6,036 acres). The wilderness characteristics would essentially remain the same.

Closing of the railroad bed (at the eastern boundary of the WSA) and the recommended area for wilderness suitability to motor vehicle use would help to preserve both naturalness and solitude. The reduction of 250 to 350 trips into the area annually using motorized vehicles would be an important factor in preserving solitude. The reduction in the number of motor vehicle trips into the WSA would also enhance the opportunities to enjoy the supplemental values of this WSA provided by the birdlife which inhabit the WSA. Any motorized vehicle use associated with range management activities would be anticipated to be infrequent. It would have no effect on naturalness and

would disrupt solitude on only 2 to 3 days annually.

Area Not Recommended for Designation. Naturalness would remain about the same in the area not recommended for designation. Virtually all the traffic entering the area is from the south, on the road which forms the southern boundary of the area recommended and on the railroad bed, there would be a reduction of about 250 to 350 motor vehicle trips annually into or through the area. This would result in improvements in solitude in the area not recommended for designation as well as the area recommended for designation. Since no oil and gas activity or other mineral activity is anticipated, no loss in wilderness values would occur due to these actions. Any motorized vehicle use associated with range management activities would be infrequent. Maintenance of range improvements would adversely affect solitude in the area not recommended for designation. However, the frequency of these activities is much lower than other motorized vehicle activity. Therefore, it is not expected to substantially increase adverse impacts on naturalness or solitude.

Conclusion. If the WSA were designated wilderness, naturalness would be protected on 6,306 acres because no surface disturbing activities would be allowed and the opportunities for motorized vehicles to adversely impact naturalness would be eliminated. Wilderness values would not be protected on 4,220 acres, but these values would not be lost because a reduction of 250 to 350 motor vehicle trips annually into or through the area due to restricted access through the area proposed for wilderness suitability would enhance opportunities for solitude and help retain naturalness. No oil and gas activities are anticipated because there are no known recoverable reserves. The supplemental values of birdwatching and photography in the WSA would also be enhanced.

Impacts to Recreation Opportunities

Area Recommended for Designation. Since virtually all of the hunter-days spent in the WSA are for antelope and sage grouse, and the area recommended for designation is relatively small (6,306 acres), the number of hunter-days is expected to be reduced from 21 to 12 annually for antelope and from 15 to 10 annually for sage grouse. The number of hunters who pass through the WSA, driving from Rock Springs, to hunt elsewhere, is expected to be reduced by about 50 visitor-days annually. There is occasional ORV activity in the WSA (10 to 15 visitor-days annually). This use would be eliminated. The number of ORV users coming into the area from the adjacent areas would not be expected to change and may

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be reduced with a more intensive program of signing to inform the public about the wilderness area and its restrictions. There would be a loss of approximately 50 to 100 visitor use days spent in the WSA (primarily for hiking and photography). Individuals who use the railroad bed to access areas north of the WSA (150 to 200) would have to utilize other routes. About half of these individuals would use other available access points. The other half would not visit the WSA.

Area Not Recommended for Designation. There is currently motorized vehicle activity in this area. The level of use would continue at current levels. The recreation opportunities in the area not recommended for designation would be reduced by about 25 visitor days annually, primarily because of the closure access via the railroad bed to motorized vehicles.

Conclusion. There would be a loss of about 250-350 visitor days in the WSA. Most of this loss would be due to the closure of the railroad bed to motorized vehicles. This impact is relatively minor because (1) of the small percentage of use this 250-350 visitor days represents, (2) at least half of the use would be displaced rather than lost, and (3) most of the impact is due to the loss of the public's ability to use the railroad bed for vehicle travel. This railroad bed has only been available for use by the public for the past two years (since the railroad tracks were removed). Therefore, a displacement would change short term rather than long term use patterns. There would be a loss of approximately 15 hunter days annually for sage grouse and antelope.

Impacts of the Alternative (All Wilderness)

The All Wilderness alternative would be to recommend that the entire Buffalo Hump WSA (10,300 acres) is suitable for wilderness designation. There would be no oil and gas leases issued in the WSA and no surface disturbance associated with oil and gas exploration and development. Motorized vehicles would be prohibited in the WSA, as well as on the railroad bed at the eastern boundary of the WSA.

Impacts to Oil and Gas Exploration and Production

If the WSA were designated wilderness, no oil and gas leases would be offered and no oil and gas resources would be recovered from the WSA. The opportunity to explore for oil and gas

resources would be lost on 10,300 acres. There are no known oil and gas reserves in the WSA. Current information does not indicate a potential for the occurrence of oil and gas.

Conclusion. If the WSA were designated wilderness, the opportunity to explore for oil and gas would be lost on 10,300 acres. There would be no oil and gas production from the WSA. However, no oil and gas production would be foregone because there are no known oil and gas reserves in the WSA.

Impacts to Wildlife Habitat and Populations

The elimination of motor vehicle use, especially on the railroad bed at the eastern boundary of the WSA, would decrease the disturbance to wildlife, resulting in reduced displacement of animals and increased habitat effectiveness. In the short term, big game populations may move into the area from adjacent areas. But big game numbers are not expected to change because the entire WSA constitutes a small percentage of the hunt area for each species (0.5 percent for elk; 0.8 percent for deer; and 1.2 percent for antelope). The disturbance to raptors would also decrease, but due to limited habitat, raptors would not increase in number.

Conclusion. If the WSA were designated wilderness, there would be no no disturbance due to oil and gas exploration and development, nor from motorized vehicle use, as the railroad bed at the eastern boundary of the WSA would be closed to motorized vehicles. Big game numbers would remain at current levels (200 antelope, 40 elk, and 75 mule deer) using the WSA during all or part of the year. Even though habitat effectiveness would be enhanced, numbers would not increase because the WSA constitutes only small percentage of the hunt area for each species.

Impacts to Wilderness Values

Wilderness values (naturalness, solitude, and supplemental values) would be protected in the entire WSA (10,300 acres). The wilderness characteristics would essentially remain the same. Oil and gas activities would not occur. The closure of the railroad bed to motorized vehicles would help preserve solitude in the WSA. However, the nearby high use ORV area would result in some noise in the Buffalo Hump WSA, adversely impacting the area's solitude.

Conclusion. If the WSA were designated wilderness, wilderness values would be protected on 10,300 acres.

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Impacts to Recreation Opportunities

Since virtually all of the hunter-days spent in the WSA are for antelope and sage grouse, hunter-days are expected to be reduced by 10 hunter-days for antelope and 5 hunter-days for sage grouse. There are approximately 10 to 15 visitor-days spent in the WSA for off-road vehicle recreation. The number of ORV users coming into the area from the adjacent areas is not expected to change but may be reduced with a more intensive program of signing to tell the public about the wilderness area and its restrictions. There would be a loss of 100 to 150 visitor-days (primarily for hiking and photography) by individuals who use the railroad bed for access to the WSA. Individuals who use the railroad bed to access areas north of the WSA (150 to 200) would have to find other routes. About half of these individuals would use other available access points. The other half would not visit the WSA. Visitor use, primarily for hiking, for users who use access points other than the railroad bed would be reduced by about 50 percent (25 visitor-days annually).

Conclusion. If the WSA were designated wilderness, there would be a loss of 250 to 350 visitor-days annually in the WSA. Due to the abundant availability of similar kinds of opportunities in the general vicinity of the WSA, these uses would be accommodated in nearby areas.

Impacts of the Alternative (No Wilderness)

The No Wilderness alternative would be to recommend that the Buffalo Hump WSA is not suitable for wilderness designation. No oil and gas exploration and development is anticipated because there are no known oil and gas reserves in the WSA. Motorized vehicles would be limited to existing roads and trails, including the railroad bed at the eastern boundary of the WSA.

Impacts to Oil and Gas Exploration and Production

If the WSA were not designated wilderness, no oil and gas exploration and production is anticipated because there are no known recoverable reserves of oil and gas in the WSA. Current information does not indicate a potential for the occurrence of oil and gas. However, the opportunity to explore for oil and gas would be available on all 10,300 acres in the WSA.

Conclusion. If the WSA were not designated wilderness, there would be no oil and gas production from the WSA because the recoverable reserves in the WSA are estimated as zero. The opportunity

to explore for oil and gas resources would be available in the entire WSA (10,300 acres).

Impacts to Wildlife Habitat and Populations

Even though oil and gas leases would be offered in the WSA, no oil and gas exploration or development is anticipated because there are no known oil and gas reserves in the WSA.

The recreation use on the railroad bed at the eastern boundary of the WSA would increase by about 50 percent (approximately 150 visitor use days annually). This would increase the level of disturbance to elk, deer, and pronghorn antelope from the use of motorized vehicles, bicycles, and hikers on and adjacent to the railroad bed. In the rest of the WSA, the limitation of motorized vehicles to existing roads and trails would not affect big game, because this restriction is currently in place. While there would be additional motor vehicle use, almost all of it would take place during the summer and fall when big game do not occupy the areas near the railroad bed. Therefore, the disturbance is not expected to change overall habitat effectiveness for big game in the WSA.

Any motorized vehicle use associated with range management activities would be anticipated to be infrequent. It would have no effect on naturalness and would disrupt solitude for only 2 to 3 days annually.

The WSA constitutes a small portion of the hunt areas for each species (0.5 percent for elk; 0.8 percent for deer; and 1.2 percent for antelope). Activities which affect big game would not be continuous and would generally not occur during critical period. Therefore, big game numbers are not expected to change.

The increased recreation use (150 visitor use days annually) would result in additional disturbance to birds which frequent the areas around the ponds immediately adjacent to the railroad bed, as they provide an easily accessible attraction to visitors to the WSA. This additional disturbance may cause birds to move farther away from the railroad bed or into the Sand Dunes WSA to the east, where there is a greater availability of ponds. Some birds may move away from the areas immediately adjacent to the railroad bed but the populations of birds in the WSA, as a whole, would not be affected because there is a sufficient number of ponds in other parts of the WSA and in the adjacent Sand Dunes WSA, to maintain a viable population. The birds would be likely to move farther into the WSAs for breeding purposes but would continue to utilize the ponds near the railroad bed as habitat for non-breeding purposes.

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There would be about a 50 percent increase in disturbance to killdeer which nest in the gravel of the railroad bed, including occasional crushing of eggs by motorized vehicles, bicycles, or foot traffic.

The guzzler would be installed primarily to benefit elk. This would reduce stress from lack of water and improve summer survival. It would also increase survival for sage grouse chicks. The disturbance to raptor nesting sites would not increase.

Conclusion. If the WSA were not designated wilderness, there would be no change in big game populations because no oil and gas activity is anticipated. While motorized vehicle activity on the railroad bed would increase by 150 visitor-days annually, this increase would not occur during a crucial or stress period for big game.

The level of motorized vehicles would be the most important factor affecting birds. Although the level of activity of motorized vehicles is expected to increase by about 150 visitor-days annually, the numbers of birds in the WSA would not change. Some species are already acclimated to the use of the railroad bed by motor vehicles and could move for breeding to ponds farther away from the railroad bed (in either the Buffalo Hump or Sand Dunes WSAs).

Impacts to Wilderness Values

The area would not be afforded statutory protection. However, since no disturbance associated with oil and gas exploration and development is anticipated, the naturalness of the WSA is expected to remain about the same.

The use of motorized vehicles in connection with range management activities would be occasional and would not affect solitude except for the short period of time. These activities would probably not be necessary every year. The occasional use would not result in existing trails becoming more visible.

Most of the disturbance in the WSA would be due to motorized vehicles entering the WSA from the railroad bed. This would result in short-term adverse impacts to the values of naturalness and solitude. The increase of 150 visitor-days annually would be due to the railroad bed remaining open to motorized vehicles and would result in an adverse impact to solitude in the WSA. Since the railroad bed is closer to the Buffalo Hump WSA than the Sands ORV open area, the adverse effects in solitude are expected to be large.

There would be a loss in supplemental values as birds and other wildlife would be displaced

near the railroad bed. Individuals utilizing the railroad bed to access the Buffalo Hump or Sand Dunes WSAs would be more likely to cause birds to fly off than a vehicle driving down the railroad bed.

Conclusion. If the WSA were not designated wilderness, there would be no impacts to naturalness because no oil and gas exploration and development is anticipated. There would be an adverse impact to solitude due to noise from motorized vehicles. There would also be a loss in supplemental values due to the presence and use of the railroad bed as a travelway. Birds may be less likely to use the ponds in the immediate vicinity of the railroad bed.

Impacts to Recreation Opportunities

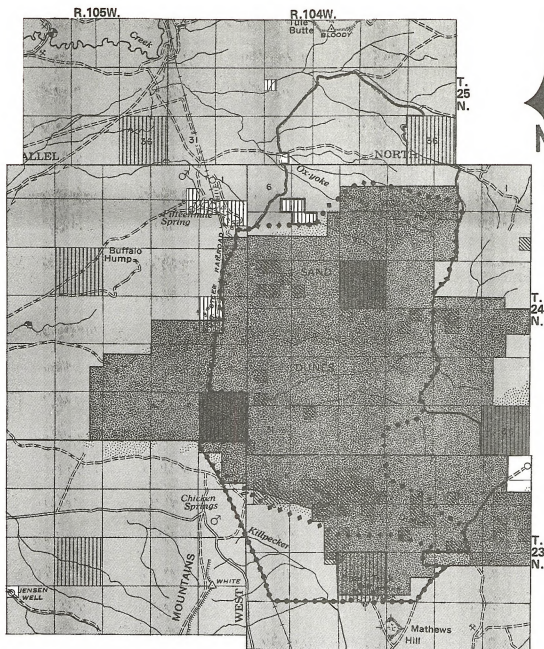
The WSA would be used by hunters to approximately the same degree as it is now. ORV use would have no effect on hunting of pronghorn antelope and sage grouse, which constitutes virtually all of the hunter-days spent in the WSA. ORV use would not increase. Most of the ORV recreation would continue to be concentrated in adjacent high use areas. There would be some increased access provided by the railroad bed. This would result in a slight increase in the number of visitors to the WSA (about 150 visitor-days annually). Therefore, it appears that little new recreation opportunities would be created.

Conclusion. If the WSA were not designated wilderness, there would be no impact on recreation opportunities. Some individuals may use this area rather than another because of improved access. However, no new opportunities would be created that would not be available elsewhere in the region. There would be an increase in visitor use of 150 visitor-days annually.

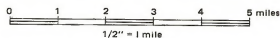
SAND DUNES WSA

Summary Description and Background

The Sand Dunes WSA is in north-central Sweetwater County about 13 miles southeast of Farson (Map SD-1). The WSA (27,309 acres) comprises a large part of the active Killpecker Sand Dunes as well as part of the Greater Sand Dunes Recreation Area of Critical Environmental Concern (ACEC). Surface ownership within the WSA includes 26,509 acres of public land and 640 acres of State land and 160 acres private land.



- Wilderness Study Area Boundary
- • • • • Proposed Wilderness Boundary
- ♦ ♦ ♦ ♦ ♦ Proposed Action
- Greater Sand Dunes Recreation ACEC
- Public Land (Administered by BLM)
- Public Water Reserve
- Private Land
- State Land
- Non-Federal Minerals



Map SD-1
Sand Dunes WSA
LAND AND MINERAL STATUS

SITE-SPECIFIC ANALYSES — SAND DUNES

Proposed Action and Alternatives

The 4 alternatives analyzed in detail were: (1) to recommend 22,438 acres as suitable for wilderness designation (an area larger than proposed in the first draft EIS), (2) that 16,920 acres of the 27,309-acre Sand Dunes WSA be recommended as suitable for wilderness designation, (3) that all 27,309 acres be recommended as suitable for wilderness designation, and (4) that no acreage in the 27,309-acre Sand Dunes WSA be recommended as suitable for designation.

Proposed Action (Large Partial Wilderness)

The Proposed Action (Large Partial Wilderness) would be that 22,438 acres be recommended as suitable for wilderness designation (Map SD-1). This total includes 21,184 acres of the 27,309-acre Sand Dunes WSA (composed of 20,544 acres of public land and 640 acres of state land), 577 acres of state land (not included in the original inventory), 77 acres of private land (not included in the original inventory), and 600 acres of split estate (federal surface, state minerals) around Boar's Tusk. The remaining 6,125 acres of the WSA would not be recommended for wilderness designation. The private land and the 577 acres of state lands are on and just outside the western boundary of the WSA, adjacent to the abandoned railroad bed. The additional lands are included in acreage calculations for this alternative only because they increase the manageability of the WSA. The western (1,125 acres) and southern (3,779 acres) portions of the WSA were added to the area recommended under this alternative. They have a lower potential for oil and gas production than the eastern portion of the WSA which is not recommended. This Large Partial Wilderness Alternative recommends 12,158 acres more than the Partial Wilderness alternative described in the first draft EIS (16,280 acres of public land).

The area recommended as suitable for designation (21,184 acres within the WSA boundary) would be managed to protect its naturalness, opportunity for solitude, opportunity for primitive recreation, and supplemental values. The area also includes 18,122 acres of the 41,400-acre Greater Sand Dunes Recreation ACEC.

For the purposes of environmental analysis, it was assumed that the 1,217 acres of State land in the area recommended for wilderness designation would transfer to BLM management if the area is designated wilderness. The same applies to the 77 acres of private land. The area recommended also includes approximately 600 acres of

split estate (federal surface, State minerals). Therefore, the acreage for the area recommended suitable for wilderness designation under this alternative is 22,438 acres rather than 20,544 acres which covers only the public land within the WSA boundary.

Oil and Gas Management

Pre-FLPMA leases will continue to be subject to valid existing rights. Continued development of the oil and gas resources would be allowed. Oil and gas operators would be required to reclaim areas disturbed as a result of exploration and development. However, no actions would be taken to compensate for habitat lost as a result of oil and gas activities. There are 560 acres of pre-FLPMA leases in the area recommended for designation. New oil and gas leases for areas not recommended as suitable for wilderness designation would be conditioned to protect sage grouse leks and to restrict disturbance within 500 feet of live water (freshwater ponds). Leases would also be conditioned to protect deer fawning and elk calving and crucial elk and deer winter range. Additionally, aboveground facilities would be painted an environmental color to blend with the surrounding landscape.

Area Recommended for Designation (22,438 acres). Drilling on pre-FLPMA leases which occupy 560 acres would be allowed. Authorizations for surface disturbing activities would be conditioned to require that the pristine active dunes not be impaired (see Map SD-1). The 560 acres of pre-FLPMA leases are in the southeast corner of the WSA. There is one producing well in this area and no additional wells are anticipated.

Unleased lands (21,878 acres) in the part of the WSA recommended for wilderness would not be offered for lease. For analysis purposes, the 1,217 acres of State land and 77 acres of private land were included in this total.

Area Not Recommended for Designation (6,125 acres). Oil and gas leasing would resume in the area not recommended for designation. It is estimated that there would be 10 wells drilled, resulting in approximately 70 acres of surface disturbance. Activity would probably be concentrated in the eastern portion of the WSA. Approximately 7 to 8 miles of new roads would be required to reach oil and gas well sites.

Solid Minerals Management

Area Recommended for Designation (22,438 acres). No activity related to leasable, salable, or locatable minerals would be allowed.

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Area Not Recommended for Designation (6,125 acres). Activity related to leasable and locatable minerals would be allowed. However, no such activity is anticipated.

Mineral extraction for salable minerals would be allowed. However, no such activity is expected because the only salable mineral of concern in the WSA is sand. Ample supplies of this mineral are available from existing sources to meet current and anticipated future needs.

Off-Road Vehicle Management

Area Recommended for Designation (22,438 acres). The area recommended for designation would be closed to off-road (motorized) vehicles except for 560 acres where there are pre-FLPMA leases. Travel in this area would be allowed only in connection with valid existing rights. The railroad bed at the western boundary of the WSA would be closed to motorized vehicle travel. All entry points would be blocked.

Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Area Not Recommended for Designation (6,125)

Motorized vehicle use in the area not recommended for designation would be limited to 5 miles of existing trails and 8 miles of new roads.

Recreation Management

The Greater Sand Dunes Recreation ACEC (38,480 acres of public land and 2,290 acres of private land) will continue to be managed in accordance with the ACEC management plan except for those areas designated as wilderness, where the wilderness management would be more restrictive than the ACEC management.

Area Recommended for Designation (22,438 acres). Hunting would be allowed but hunters would not be allowed to use motorized vehicles. In the short term, there would be about 70 to 80 hunter-days annually spent in the WSA. In the long term, there would be about 100 hunter-days annually spent in the WSA. Most of these would be concentrated in the area recommended for designation.

There would be no motorized vehicle use by recreationists who access the WSA using the railroad bed. There would be 500 to 600 visitor-days

annually for nonmotorized recreation (e.g., hiking and photography).

The places where sand would blow over the railroad bed at the western boundary of the WSA and close it to travel would not be cleared. The railroad bed would be disrupted at several other points along the way to discourage travel by motorized vehicles. Access points would be blocked.

Area Not Recommended for Designation (6,125 acres). In the short term, approximately 50 percent of the hunters (12 to 20) displaced from the area recommended for designation would use this adjacent area. In the long term, there would be about 100 hunter-days annually spent in the WSA. Some of this increase would occur within the next 5 to 10 years in the area not recommended for designation. After that time, oil and gas exploration and development would occur and displace game animals in the area not recommended for designation, and the hunters would concentrate in the area recommended for designation. Motorized vehicle use would be limited to existing roads and trails.

Grazing Management

Grazing management practices (Sands grazing allotment) would not change from those currently in place. Within the Sand Dunes WSA, the estimated carrying capacity is 913 AUMs for cattle and 835 AUMs for sheep, with use occurring from May 1 to December 14. There are four livestock reservoirs within the WSA boundary. No additional range improvements are planned.

Maintenance of existing reservoirs would involve cleaning spillways of debris and repairing spillway or dike erosion. Reconstruction would be considered when the dike is either washed out or the reservoir is silted in. Reconstruction would be done by the Bureau and would not increase the size of the facility if it is in a wilderness area. Permittees would be responsible for maintenance. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

Area Recommended for Designation (22,438 acres). No actions associated with wildlife habitat management are anticipated in the portion of the WSA recommended for designation. However, a

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greater dependence on this area for big game will be created by increased oil and gas activity occurring outside the area recommended for designation. Close coordination with the Wyoming Game and Fish Department will be required to monitor population and habitat change, to ensure no inappropriate degradation occurs.

Area Not Recommended for Designation (6,125 acres). Existing habitat would be managed in conjunction with oil and gas development. Habitat quality would be maintained as much as possible through strategic development planning, including seasonal restrictions.

Oil and gas operators would be required to reclaim disturbed areas no longer needed for oil and gas exploration and production. However, no actions would be undertaken to compensate for habitat lost as a result of oil and gas activities. New oil and gas leases and permits for exploration or development would be conditioned to protect sage grouse leks, crucial deer and elk winter range, calving and fawning areas, and to restrict disturbance within 500 feet of live water.

Alternative (Small Partial Wilderness Alternative)

The Small Partial Wilderness Alternative would be that 16,920 acres of the 27,309-acre Sand Dunes WSA be recommended as suitable for wilderness designation (see Map SD-1). The 16,920 acres includes 640 acres of state land that is totally within the WSA. For the purposes of environmental analysis, it was assumed that 640 acres of State land in the area recommended for wilderness designation would transfer to BLM management if the area is designated wilderness. Therefore, the acreage for the area recommended for designation is 16,920 acres rather than 16,280 acres which covers only the public land in the area recommended for designation.

The remaining 10,389 acres of the WSA would not be recommended for wilderness designation. This is the Partial Wilderness (Proposed Action) that was analyzed in the first draft EIS. This alternative does not recommend designation for the southern (3,216 acres), northern (4,000 acres), or eastern (2,125 acres) portions of the WSA. It also does not recommend designation of a western portion of the WSA, adjacent to the railroad bed (1,125 acres).

The area recommended as suitable for designation (16,920 acres) would be managed to protect naturalness, opportunity for solitude, opportunity for primitive recreation, and supplemental values. In the remaining 10,389 acres of the WSA, 3,064 acres would be administered under special man-

agement in the Greater Sand Dunes Recreation ACEC. No special management would be prescribed for the remaining 7,165 acres in the WSA.

Oil and Gas Management

Pre-FLPMA leases would continue to be subject to valid existing rights, but development of the oil and gas resources would be allowed in accordance with BLM policy. There are 560 acres of pre-FLPMA leases in the southeast corner of the WSA included in the area recommended as suitable for wilderness designation. New oil and gas leases for areas not recommended as suitable for wilderness designation and permits for exploration or development on existing leases would be conditioned to protect sage grouse leks and to restrict disturbance within 500 feet of water (freshwater ponds, reservoirs). They would also be conditioned to protect deer fawning and elk calving and crucial elk and deer winter range. Above-ground facilities would be painted an environmental color to blend in with the surrounding landscape.

Area Recommended for Designation (16,920 acres). There is one producing well and 7 acres of disturbance on the 560 acres of pre-FLPMA leases. Although no additional wells are anticipated, oil and gas activity on the 560-acre pre-FLPMA lease would continue.

Unleased lands in the part of the WSA recommended for wilderness (16,360 acres) would not be offered for lease. For analysis purposes, the 640-acre parcel of State land was included in this total.

Area Not Recommended for Designation (10,389 acres). Oil and gas leasing would resume in the area not recommended for designation. It is estimated that there would be 16 wells drilled, resulting in approximately 112 acres of surface disturbance. Activity would probably be concentrated in the eastern portion of the WSA. Approximately 10 to 12 miles of new road would be constructed to reach well locations.

Solid Minerals Management

Area Recommended for Designation (16,920 acres). No activity related to leasable, salable, or locatable minerals would be allowed.

Area Not Recommended for Designation (10,389 acres). Activity related to leasable and locatable minerals would be allowed. However, no such activity is anticipated.

No activity related to salable minerals would be allowed on 3,064 acres under ACEC management. Mineral extraction for salables would be

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allowed on the remaining 7,165 acres in the WSA. However, no such activity is expected.

Off-Road Vehicle Management

Area Recommended for Designation (16,920 acres). The area recommended for designation would be closed to off-road vehicles except for 560 acres of land where there are pre-FLPMA leases and travel would be allowed only in connection with valid existing rights. These would include activities associated with production.

Area Not Recommended for Designation (10,389 acres). Motorized vehicle use in the area not recommended for designation would be limited to 5 miles of existing roads and trails and 12 miles of new roads.

The railroad bed at the western boundary of the WSA would be open to motorized vehicles. If the Small Partial Wilderness for the Sand Dunes WSA is designated wilderness, and the Partial Wilderness or the All Wilderness alternative for the Buffalo Hump WSA is designated wilderness, the more restrictive management of motorized vehicles on the railroad bed would apply (i.e., it would be closed to motorized vehicles).

Recreation Management

The Greater Sand Dunes Recreation ACEC (38,480 acres of public land and 2,290 acres of private land) would continue to be managed in accordance with the ACEC management plan except for those areas designated as wilderness, where the wilderness management would be more restrictive than the ACEC management. There would be 500 to 600 visitor-days annually for nonmotorized recreation and 150 visitor-days of motorized use within the ACEC but outside the recommended area for designation.

Area Recommended for Designation (16,920 acres). Hunting would be allowed but hunters would not be allowed to use motorized vehicles. In the short term, there would be about 70 to 80 hunter-days annually spent in the WSA. In the long term, there would be about 100 hunter-days annually spent in the WSA. Most of these would be concentrated in the area recommended for designation. This level of use is similar to the level of use under the Larger Partial Wilderness alternative because, under both alternatives, the eastern portion of the WSA is not recommended for designation. This would be the area most likely to be subject to oil and gas exploration and development and subsequent displacement of wildlife.

Hunting would be allowed but hunters would not be allowed to use motorized vehicles. There

would be no off-road vehicle recreation in the area recommended for designation.

Area Not Recommended for Designation (10,389 acres). In the short term, there would be about 70 to 80 hunter-days annually spent in the WSA. In the long term, there would be about 100 hunter-days annually spent in the WSA. Some of this increase would occur within the next 5 to 10 years in the area not recommended for designation. After that time, oil and gas exploration and development would occur and displace big game animals in the area not recommended for designation and the hunters would concentrate in the area recommended for designation.

Hunters would not be allowed to use motorized vehicles on 3,064 acres in the Sand Dunes Recreation ACEC. On the remaining 7,165 acres, hunting would be allowed and motorized vehicle use would be limited to existing roads and trails.

The railroad bed at the western boundary of the WSA would be maintained so that it would be open to travel. Sand would be cleared at points where sand would otherwise blow over the railroad bed and close it to travel. Current use (200 to 250 visitor-days annually) would continue and may increase to about 300 visitor-days annually as more people become aware of the existence of the railroad bed for vehicle travel.

Grazing Management

Grazing management practices (Sands grazing allotment) would not change from those currently in place. Within the Sand Dunes WSA, the estimated carrying capacity is 913 AUMs for cattle and 835 AUMs for sheep, with use occurring from May 1 to December 14. There are 4 livestock reservoirs within the WSA. No additional range improvements are planned. The use of motorized vehicles in connection with range management activities would be allowed, limited to existing roads and trails, in the area not recommended as suitable for wilderness designation.

Maintenance of existing reservoirs would involve cleaning spillways of debris and repairing small holes in the dike. Reconstruction would be considered when the dike is either washed out or the reservoir is silted in. Reconstruction would be done by the Bureau and would not increase the size of the facility (if in a wilderness area). Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

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Wildlife Management

Area Recommended for Designation (16,920 acres). No actions associated with wildlife management are anticipated.

Area Not Recommended for Designation (10,369 acres). Existing habitat would be managed to protect enhance habitat quality.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 27,309 acres of the Sand Dunes WSA be recommended as suitable for wilderness designation. The entire area would be managed to protect its naturalness, opportunity for solitude, opportunity for primitive recreation, and special features. There are 26,509 acres of public land, 640 acres of State land and 160 acres of private land in the WSA. This alternative is the only one which includes the northern (approximately 4,000 acres of public land) and eastern (approximately 2,125 acres) portions of the WSA.

Oil and Gas Management

There is one producing well with 7 acres of disturbance on the 560 acres of pre-FLPMA leases. There would be oil and gas activities associated with production and maintenance. However, no additional wells are anticipated. This alternative is the only one which recommends the eastern portion of the WSA for designation which is the portion of the WSA with the highest potential for oil and gas production.

Unleased lands would not be offered for lease.

Solid Minerals Management

Mineral extraction for salables would not be allowed. No demand for salable is expected in this area. Demand for salables found in the WSA (sand) can be satisfied outside of the WSA.

Off-Road Vehicle Management

Motorized vehicle use would be eliminated, except where authorized in connection with valid existing rights (560 acres). No motor vehicle use would be allowed on 26,749 acres. On 560 acres, motor vehicle use would be restricted to existing roads and trails only in connection with valid existing rights (pre-FLPMA oil and gas leases). Use would be associated with production activities on an existing well.

The railroad bed at the western boundary of the WSA would be closed to vehicle travel. All entry points would be blocked. The points where the sand would blow over the railroad bed would not be cleared.

Recreation Management

Hunting would be allowed but hunters would not be allowed to use motorized vehicles. In the short term, hunter use would remain about the same (70 to 80 hunter-days annually). In the long term, there would be about 100 hunter-days annually spent in the WSA. This level of use is similar to the level of use under the Larger Partial Wilderness alternative. However, since more of the WSA would be designated wilderness, it would take longer for the big game displaced into the WSA to reach a point where they may not find adequate forage and cover to support increased numbers.

Grazing Management

Grazing management practices (Sands grazing allotment) would not change from those currently in place. Within the Sand Dunes WSA, the estimated carrying capacity is 913 AUMs for cattle and 835 AUMs for sheep, with use occurring from May 1 to December 14. There are four livestock reservoirs within the WSA boundary. No additional range improvements are planned.

Maintenance of existing reservoirs would involve cleaning spillways of debris and repairing spillway or dike erosion. Reconstruction would be considered when the dike is either washed out or the reservoir is silted in. Reconstruction would be done by the Bureau and would not increase the size of the facility. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

No actions associated with wildlife management would be anticipated in the WSA. Wildlife habitat would be enhanced because of reduced motorized activity. Populations of big game would increase by approximately 25 percent in the long term. Hunting would be allowed but no motorized vehicles could be used. A greater dependence on this area for displaced big game

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will be created by increased oil and gas activity outside the area recommended for designation. Close coordination with the Wyoming Game and Fish Department will be required to monitor population and habitat change, to ensure no inappropriate degradation occurs.

Outside the area recommended for designation, oil and gas operators would be required to reclaim disturbed areas no longer needed for oil and gas exploration and production. However, no actions would be undertaken to compensate for habitat lost as a result of oil and gas activities. New oil and gas leases and permits for exploration or development on existing leases would be conditioned to protect sage grouse leks, crucial deer and elk winter range, calving/fawning areas, and to restrict disturbance within 500 feet of live water.

Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 27,309-acre Sand Dunes WSA be recommended as suitable for wilderness designation. The WSA would be opened to oil and gas leasing. There would be a potential for 43 oil and gas wells to be drilled in the WSA, resulting in 301 acres of surface disturbance.

Oil and Gas Management

Oil and gas leasing would resume in the entire WSA. New oil and gas leases and permits for exploration or development on existing leases would be conditioned to protect sage grouse leks and to restrict disturbance within 500 feet of live water. They would also be conditioned to protect deer fawning and elk calving and crucial elk and deer winter range. Oil and gas operators would be required to reclaim disturbed areas no longer needed for oil and gas exploration and production. However, no actions would be taken to compensate for habitat lost as a result of oil and gas activities. Aboveground facilities would be painted an environmental color to blend in with the surrounding landscape.

Currently, 560 acres are leased under pre-FLPMA leases. Unleased lands (25,849 acres) would be offered for lease. There would be a potential for 43 oil and gas wells to be drilled in the WSA, resulting in 301 acres of surface disturbance. For analysis purposes, the 640 acres of State land totally within the WSA was not included in the acreage total because none of the area would be recommended for designation. The 640 acres of State land and minerals is assumed to remain under State administration. Approximately 25 miles of roads would be constructed to

reach oil and gas well sites. Mineral activity within the Greater Sand Dunes Recreation ACEC would be subject to stipulations designed to protect the ACECs unique values.

Solid Minerals Management

Mineral extraction for salables would be allowed with appropriate mitigation measures to protect other resource values. However, none of this activity is expected. Mineral extraction for salables and leasables in the ACEC would not be allowed. No activity is anticipated for either leasables or locatables.

Off-Road Vehicle Management

Motor vehicle use would be limited to existing roads and trails. The eastern third of the ACEC would be open to off-road vehicle (ORV) use on active dunes.

The railroad bed at the western boundary of the WSA would be open to motorized vehicles. If this alternative were accepted for the Sand Dunes WSA (not recommended as suitable for wilderness designation), but the Buffalo Hump area were recommended as suitable for wilderness designation, the railroad bed would be closed to motorized vehicles.

Recreation Management

Hunting would be allowed but motorized vehicles would be limited to 9 miles of existing roads and trails and 25 miles of new roads. There would be about 20 hunter-days annually spent in the WSA. There would be about 250 to 300 visitor-days spent annually for nonmotorized recreation. Motorized vehicle recreation would continue at current levels (400 to 500 visitor-days annually).

Grazing Management

Grazing management practices (Sands grazing allotment) would not change from those currently in place. Within the Sand Dunes WSA, the estimated carrying capacity is 913 AUMs for cattle and 835 AUMs for sheep, with use occurring from May 1 to December 14. There are four livestock reservoirs within the WSA boundary. No additional range improvements are planned.

The use of motorized vehicles in connection with range management activities would be allowed. These activities would be restricted to existing roads and trails as provided by the Greater Sand Dunes Recreation ACEC management plan. Activities would generally be no more

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than one to two days annually, using a pickup truck or similar vehicle, and would be limited to activities such as an annual inspection of range improvements. Maintenance of existing reservoirs would involve cleaning spillways of debris and repairing small holes in the dike. Reconstruction would be considered when the dike is either washed out or the reservoir is silted in.

Wildlife Management

Existing habitat would be managed in conjunction with oil and gas development. Habitat quality would be maintained as much as possible through strategic development planning, including seasonal restrictions.

The Greater Sand Dunes Recreation ACEC management plan objectives call for improving waterfowl habitat and duration of perennial water through pothole development in the Flockets (southern portion of the WSA). These activities would be implemented under this alternative since it is the only alternative that excludes the Flockets.

Affected Environment

The Sand Dunes WSA (see Map SD-1) has barren active dunes with superb draws and valleys. The WSA also contains wet meadows, greasewood, big sagebrush, and rabbitbrush communities. Boar's Tusk, a volcanic plug that was uncovered by erosion, is a prominent landmark just outside the southern edge of the WSA. Eolian ice cells feed pools at the bases of many large dunes. The ice cells form as snow and ice accumulate in the leeward side of dunes and are covered by blowing sand. The dunes help support the only desert elk herd in Wyoming (Map SD-2). The western boundary of the WSA is formed by a railroad bed from which the ties and rails were recently removed. This railroad bed forms part of the boundary between the Sand Dunes WSA and the Buffalo Hump WSA.

Mineral Resources

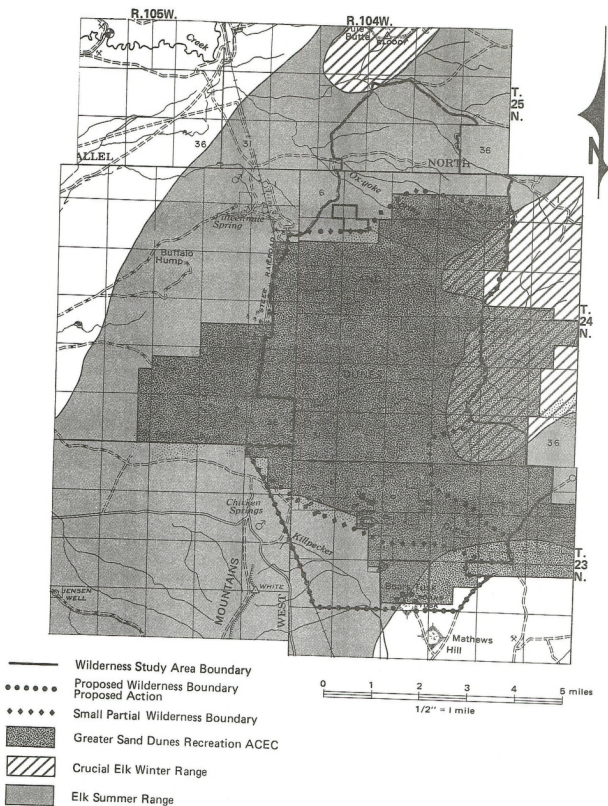
Hydrocarbons are the most valuable potential mineral resource in the WSA. Producing oil and gas fields occur within, immediately east, and southeast of the WSA. The WSA contains 26,509 acres of public land with 560 acres of pre-FLPMA leases held by production. The rest of the public lands in the WSA are not leased. The mineral estate is held by the State of Wyoming on 640 acres, and privately on 160 acres within the WSA.

There are three producing wells in the eastern part of the WSA. The high development potential area in the WSA includes a portion of the Nitchie Gulch field (T. 23 N., R. 103 W.). The Pine Canyon field (Tps. 22 and 23 N., R. 103 W.) is immediately east of the Nitchie Gulch area, forming the Nitchie Gulch-Pine Canyon KGS. Cumulative production in the Nitchie Gulch field as of 1982 was 156,062 barrels (BBLs) of oil and 70.8 billion cubic feet (BCF) of gas; 21 wells were in production in the field during 1982 (Wyoming Oil and Gas Commission 1983). Pine Canyon cumulative production as of 1982 was 22,278 BBLs of oil and 12.9 BCF of gas, with 11 producers that year. The ultimate primary gas production for the 10,880-acre Nitchie Gulch field is estimated at 11.1 BCF from the Dakota formation and 75.6 BCF from the Frontier formation (Tatar, et al. 1979). The 2,214-acre Pine Canyon field is expected to produce 20.5 BCF from the Frontier/Dakota formation (George 1979). Well spacing orders for the fields are one per 640 acres and one per 320 acres, respectively. No estimates are available for the Essex Mountain Unit east of the WSA (T. 24 N., R. 104 W.).

Reserves per 640-acre spacing in the Sand Dunes WSA are estimated to be 3.5 BCF of natural gas and 4,957 BBLs of condensate based on Frontier Formation production only. Recoverable reserves within the WSA are 145 BCF of gas and 205,320 BBLs of condensate. The average success ratio for wells drilled in the area is 54 percent and this is assumed to apply to the WSA. To indicate the relative perspective of these amounts to regional reserves, we have estimated the relative magnitude of regional reserves. These numbers are intended only to aid the reader in understanding the relative proportion of the reserves in the WSA to those which are potentially available elsewhere. The recoverable reserves for the Green River Basin as a whole (15,046 square miles) are approximately 50,000 BCF total.

Wildlife

The WSA provides important wildlife habitat for a number of species. The unique ability of the Killpecker Sand Dunes to store water in the form of ice lenses and to release this water during the summer is critical to several species of wildlife. The Steamboat Mountain - Sands elk herd frequents most of the WSA during the year. Loco Butte often winters from 35 to 80 or more head of elk annually. Warmer spring weather stimulates movement of cow elk to historic calving areas in Indian Gap and nearby Steamboat Rim. Ponds and shallow pools from Loco Butte to Buffalo Hump provide summer water for at least 40 resident elk. During interim management, elk



Map SD-2
Sand Dunes WSA
ELK HABITAT

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numbers have increased about 5 percent annually. This is due mostly to the restrictions on motorized vehicles (dune buggies) in the WSA.

Mule deer are found in the WSA, but the habitat does not contribute significantly to the overall forage, cover, and fawning of the herd unit. The areas with water become important to the deer after fawning although fawning does occur within the WSA. Generally, in excess of 75 head use the WSA during the summer and fall. Essex Mountain and the tall sagebrush in the draws to the west are used as escape cover and for spring deer fawning.

Pronghorn antelope casually use the WSA year-long. Unnamed ponds nearby provide spring fawning habitat and summer water. The same portion of the WSA provides fall and early winter range for more than 100 head of pronghorn antelope. Southern areas, including the Flockets south of Loco Butte, and Boars Tusk are yearlong home to about 30 pronghorn antelope. By fall, the population increases to over 200 as pronghorn antelope move in from other unwatered areas outside the WSA.

The Sand Dunes WSA (27,309 acres) constitutes 1.4 percent of the 1,999,076-acre Steamboat elk hunt area; 2.1 percent of the 1,295,248-acre Steamboat mule deer hunt area; and 3.2 percent of the 858,181-acre Eden pronghorn antelope hunt area.

Live water in the form of freshwater ponds provides waterfowl habitat. They range in depth from a few inches to 10 feet. There are about 70 ponds in the WSA. If each pond could bring off 1 brood of ducks annually (several ponds will generally bring off more than one brood), the WSA could produce as many as 560 ducklings annually. With no motorized vehicle activity and no surface disturbance, the production of waterfowl is currently at about this level. Other waterfowl and shorebirds include white-faced ibis, killdeer, snowy plover, sandpipers, sage grouse, avocets, and common wading birds.

Hummingbirds arrive in the WSA in early August and leave for southerly climates by late August. Migrating passerine birds also increase in number around ponds in late summer and early fall. Spadefoot toads, tiger salamanders, and wandering garden snake represent common amphibians and reptiles. There are no fish in the ponds in the WSA. Considerable planning and discussion over stocking some of the deeper ponds with fish has taken place. Since the area was designated a WSA, these plans have been placed on hold.

Wilderness Values

The findings of the wilderness inventory for each of the four mandatory wilderness characteristics may be summarized as follows:

Size

The WSA contains 26,509 acres of public land, 640 acres of State land, and 160 acres of private land. An additional 1,254 acres adjacent to various points of the WSA are being considered for wilderness suitability. The wilderness values described in this section also apply to the additional acreage.

Naturalness

The WSA is essentially in a natural condition. The intrusions found in the WSA are considered minor and do not detract from the apparent naturalness of the WSA. These intrusions include three producing wells in the eastern part of the WSA, two abandoned well sites within 50 feet of the WSA boundary, an old corral in the southwestern part, and a deteriorating barbed wire fence in the northern part of the WSA. There are also intrusions due to motorized vehicles in the northern part of the WSA. The large dunes in parts of the WSA make it possible for a visitor to experience the naturalness of the area because man-caused disturbances are not apparent. The constantly changing nature of the dunes adds to this feeling.

The rails of the abandoned U.S. Steel railroad were removed from the railroad bed at the western boundary of the WSA. The bed is about 3 feet above the rest of the original right-of-way. From within the WSA, the Buffalo Hump WSA would be seen approximately 8 miles to the west-northwest. Currently the railroad bed is used by four-wheel drive and some two-wheel drive vehicles.

Outstanding Opportunities

Many wind-blown basins exist with the WSA. The draws, valleys, and ridges in the northern and eastern sections also provide outstanding opportunities for solitude, due to the screening effect they offer. The size of the WSA and the large amount of active sand dunes create further opportunities for solitude. The variety of dunes, from active to stabilized, adds to the uniqueness of the area. Outstanding opportunities for primitive and

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unconfined recreation are readily available. Hiking in the dunes is strenuous but can be a rewarding experience. Other activities include bird-watching, hunting, sightseeing, and photography.

Birds, including waterfowl, shorebirds, and killdeer, are relatively abundant in parts of the area. This provides an unusual opportunity for viewing and photography in nearby areas of the high desert.

Supplemental Values

Ecologically, the most unique feature of the Sand Dunes WSA is the eolian ice cells that feed pools at the base of many large dunes. These are formed as snow and ice accumulate on the leeward side of the dunes and then are covered by blowing sand. These pools, or ponds, range in depth from a few inches to ten feet deep, some being crystal clear and almost devoid of life, while others are muddy, murky, and alive with tadpoles, salamanders, insects, waterfowl, and various grasses and algae. The dunes help support the only desert elk herd in Wyoming. About 40 head occupy the Sand Dunes WSA.

Recreation Opportunities

Off-road vehicle enthusiasts (approximately 375 to 400 visitor-days annually) and hunters (approximately 70 to 80 hunter-days annually) are the primary users of the Sand Dunes area. Most off-road vehicle enthusiasts use relatively broad areas during their visit and would cross over the boundaries of the partial wilderness alternatives, the WSA, and the open ORV area near the WSA. Other recreationists use the area for hiking, photography, and other nonmotorized uses (approximately 400 to 500 visitor-days annually).

Estimates of use for the hunt areas in which the Sand Dunes WSA is located include 229 hunter-days in the 1,999,076-acre Steamboat elk hunt area; 1,832 hunter-days in the 1,295,248-acre Steamboat mule deer hunt area; and 2,097 hunter-days in the 858,181-acre Eden pronghorn antelope hunt area.

The abandoned U.S. Steel railroad bed is used by visitors to access the western portion of the Sand Dunes WSA. Visitor use data for use on the railroad bed are for only the one year the rails have been removed. Approximately 200 to 250 visitor-days are spent in the WSA from this access point. Approximately 150 to 200 visitor-days are spent by individuals driving on the railroad bed to access locations north of the WSA. For example, there is good sage grouse habitat adjacent to

the railroad bed several miles north of the WSA. When the railroad was present, these sage grouse were not hunted. The removal of the rails created new access, opening the area to sage grouse hunting both from the south (Rock Springs) and from the north (Farson).

Grazing Management

The Sands Grazing Allotment includes the Sand Dunes WSA. Within the Sand Dunes WSA, the estimated carrying capacity is 913 AUMs for cattle and 835 AUMs for sheep, with use occurring from May 1 to December 14. There are four livestock reservoirs within the WSA boundary. No additional range improvements are planned.

Environmental Consequences

The likelihood for some oil and gas development to occur in the area, particularly the southeastern portion, is relatively high. This assumption is based on the success ratio of nearby wells. For the Sand Dunes WSA, this success ratio is estimated at 54 percent. This does not mean that there is a 54 percent likelihood that the area's oil and gas resources will be developed. Rather, 54 percent of wells drilled are likely to be producing wells.

Impacts of the Proposed Action (Large Partial Wilderness)

The Proposed Action (Large Partial Wilderness) would be that 22,438 acres be recommended as suitable for wilderness designation (see Map SD-1). This total includes 21,164 acres of the 27,309-acre Sand Dunes WSA (composed of 20,544 acres of public land and 640 acres of state land), 577 acres of state land (not included in the original inventory), 77 acres of private land (not included in the original inventory), and 600 acres of split estate (federal surface, state minerals) around Boar's Tusk. There would be a potential for 10 oil and gas wells to be drilled, resulting in 70 acres of surface disturbance. This partial alternative is 12,158 acres larger than the partial alternative that was recommended in the draft EIS.

Impacts to Oil and Gas Exploration and Production

Area Recommended for Designation. Oil and gas activity on 560 acres of pre-FLPMA leases would continue to occur. This would amount to an esti-

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mated 3 BCF of natural gas and 4,337 BBLS of condensate. The opportunity to develop the oil and gas resources currently under federal administration would be foregone for the long term in the area recommended for wilderness (20,544 acres) except for the 560 acres of pre-FLPMA leases held by production. The potential production foregone is estimated at 109 BCF of natural gas and 154,782 BBLS of condensate. The eastern portions of the WSA have higher oil and gas potential than the western portions of the WSA. This indicates that no oil and gas exploration and production is anticipated from the western portion of the WSA.

Area Not Recommended for Designation. Production would occur from the areas not recommended for wilderness (6,125 total acres, 5,965 federal minerals). Potential production from these areas is estimated to be 33 BCF of natural gas and 46,200 BBLS of condensate. Oil and gas exploration and production is most likely in the eastern portion of the WSA where oil and gas has already been found. The eastern portion of the WSA is not recommended for designation under this alternative. Most of the oil and gas production in the area is occurring to the east of the WSA. This indicates that in the next several years, exploration and production would increase in the eastern portion of the WSA not recommended for designation.

Conclusion. Potential production is estimated at 36 BCF of natural gas and 50,537 BBLS of condensate. Potential production foregone is estimated at 109 BCF of natural gas and 154,782 BBLS of condensate. The potential production foregone constitutes about 0.22 percent of the potential production in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

Area Recommended for Designation. The larger partial wilderness designation would protect habitat for elk, deer, and antelope on 21,878 acres, within the area proposed for designation, by limiting human intrusions (especially ORV use and oil and gas activity). Oil and gas activity would affect habitat on 560 acres. Oil and gas activity taking place immediately to east of the WSA is currently displacing animals into the WSA, increasing the population in the WSA by about 50 percent. This effect is expected to continue for the long term. This will place a greater pressure on the resources of the WSA to support the displaced wildlife.

Area Not Recommended for Designation. The area not recommended for designation (6,125 acres) would have up to 10 wells with approxi-

mately 70 acres of surface disturbance due to roads and well pads. This area would be effectively lost for wildlife habitat. However, the effective habitat lost for elk could be substantially higher. The cumulative impacts of animals displaced from oil and gas activities to the east of the WSA and the 6,125 acres not recommended for designation would place a greater pressure on existing populations.

The 6,125 acres of the WSA not recommended for designation constitute only about one half of one percent of the Steamboat elk hunt area. Other areas of the larger Steamboat elk hunt area generally receive high use levels by big game. The closure of the railroad bed to vehicle traffic would help to eliminate avoidance of this area by wildlife. Since this area contains many ponds, which provide valuable habitat to both big game and birds, wildlife populations would be maintained.

Conclusion. Wildlife populations in the WSA would probably increase by about 50 percent in the short term as they are displaced from the area east of the WSA. Within 3 years, carrying capacity in the WSA will probably be reached and displaced animals would be further displaced to other areas. The increased population in the WSA would continue for the long term.

Impacts to Wilderness Values

Area Recommended for Designation. The naturalness, opportunities for solitude and primitive recreation, and unique supplemental values would be protected in the area recommended for designation because disturbance would not be allowed on 21,878 acres. (This acreage considers that 560 acres of pre-FLPMA leased acreage would not be protected from disturbance.) This area contains all the active dunes in the WSA and has the least intrusions from motorized vehicles.

Most of the ponds fed by eolian ice cells, which constitute important supplemental values, are in the area recommended for designation. There would be no disturbance to waterfowl, which are another supplemental value in the WSA.

The closure of the railroad bed to vehicle traffic would eliminate noise from motorized vehicles and help to maintain solitude in the western portions of the WSA. It would also help to maintain naturalness because vehicles would not be able to enter the western portions of the WSA from the railroad bed.

Area Not Recommended for Designation. This area contains most of the intrusions due to motorized vehicles (4,000-acre northern portion) and does not contain large active dunes or pools. The 2,125-acre eastern portion contains the 3 produc-

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ing wells. The naturalness and outstanding values associated with the lands within the WSA not recommended for wilderness (6,125 acres) would be lost or reduced.

Conclusion. Naturalness and solitude would be preserved on 21,878 acres. They would be lost on 6,685 acres because 6,125 acres of the WSA would not be designated wilderness and 560 acres of pre-FLPMA leased acreage would not be protected from disturbance by oil and gas operations. However, the designation of 22,438 acres as wilderness would ensure the availability of naturalness and solitude on 21,878 acres in this unique environmental setting.

Impacts to Recreation Opportunities

Area Recommended for Designation. In the short term under wilderness designation, the number of hunter-days would remain about the same (70 to 80 hunter-days annually). The number of hunter-days spent in the WSA would increase to approximately 100 annually as the population of big game in the WSA increases as a result of displacement of big game due to oil and gas activities east of the WSA. When oil and gas exploration and development begins in the area not recommended for designation, all of this increase in hunter use would occur in the area recommended for designation.

All motorized vehicle use would be eliminated. This would have an adverse impact on motorized recreation vehicle enthusiasts who use the part of the area recommended for designation. This loss of motorized (ORV) use is expected to be accommodated on the open ORV use area to the east of the WSA. However, some users may have to drive long distances (up to 50 miles) to get to the open area because of the access limitations caused by the existence of the wilderness area (with a prohibition against motorized vehicles).

About half of the 200 to 250 individuals who access the WSA from the railroad bed to the west of the WSA would cease to use the area. The remainder would access the WSA from other locations. This amounts to a short-term reduction of 100 to 125 visitor-days in the vicinity of the WSA. However, in the long term, hiker use would increase slightly (100 to 125 visitor-days annually) over current levels because of the unique values in the Sand Dunes and the solitude preserved by eliminating motorized vehicles and oil and gas activities. In the area recommended for designation, visitor use for nonmotorized recreation not associated with hunting (e.g., hiking, photography) would be 500 to 600 visitor-days annually.

Overall, recreation use of the area recommended for designation is expected to decrease in the short term (approximately 300 visitor-days annually) with the change from some motorized to all nonmotorized use. Recreation use in the vicinity of the WSA is expected to increase because of the shift of users from the WSA into nearby areas, increased regional demand, the perceived added diversity if the area proposed is designated as wilderness, and the establishment of the open ORV area.

Area Not Recommended for Designation. Recreation use, both for hunters and for off-road vehicle enthusiasts is expected to increase to absorb some of the users who have been displaced from the area recommended for designation.

Approximately 25 percent of off-road vehicle users (90 to 100 annually), displaced from the WSA, would use the part of the WSA not recommended for designation. The closure of the railroad bed to motorized vehicles would result in about 25 percent of the displaced users (50 to 60 annually) shifting to the portion of the WSA not recommended for designation. Approximately 50 percent of the hunters displaced from the area recommended for designation (12 to 20) would use the area not recommended for designation. The lower percentage for off-road vehicle enthusiasts is due to the existence of the open ORV "play" area near the WSA. It is expected that most displaced recreationists would use the open area.

Conclusion. Hunting opportunities in the WSA remain the same in the short term (70 to 80 hunter-days annually). Due to the increase in the number of big game displaced by oil and gas activity to the east of the WSA, there would be an increase in the quality of the hunting experience and a potential increase in success. Motorized vehicles would be eliminated from the area recommended for designation. However, because of an abundance of these opportunities near the WSA, these opportunities would continue to be generally available. The closure of the railroad bed to motorized vehicles would, in the short term, reduce hikers by about 50 percent (100 to 125 visitor-days annually). In the long term, hiker use would increase by 100 to 125 visitor-days annually because of the attractiveness of the area. In the short term, an overall reduction in use of approximately 300 visitor-days annually would occur because of the elimination of motorized use. However, in the long term, recreation use is expected to increase because of increased regional demand, the perceived added diversity if the area, the existing open ORV area adjacent to the WSA, increased hunting quality, hiking, diverse wildlife photography opportunities, and other wilderness attractions.

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Impacts of the Alternative (Small Partial Wilderness)

The Small Partial Wilderness alternative is the Partial Wilderness Alternative which was the Proposed Action in the first draft EIS. The Small Partial Wilderness Alternative would be that 16,920 acres of the 27,309-acre Sand Dunes WSA be recommended as suitable for wilderness designation. There would be a potential for 16 oil and gas wells to be drilled, resulting in 112 acres of surface disturbance, in addition to the one existing well on the pre-FLPMA lease causing approximately 7 acres of disturbance.

Impacts to Oil and Gas Exploration and Production

Area Recommended for Designation. Oil and gas activity on 560 acres of pre-FLPMA leases would continue to occur. This would amount to an estimated 3 BCF of natural gas and 4,337 BBLS of oil. The opportunity to develop the oil and gas resources currently under federal administration would be foregone for the long term in the area recommended for wilderness (16,280 acres) except for the 560 acres of pre-FLPMA leases held by production. The potential production foregone is estimated at 86 BCF of natural gas and 121,756 BBLS of condensate.

Area Not Recommended for Designation. Production would occur from the areas not recommended for wilderness (10,229 acres of federal mineral estate). Potential production from these areas is estimated to be 56 BCF of natural gas and 79,227 BBLS of condensate.

Conclusion. Potential production foregone is estimated at 86 BCF of natural gas and 121,756 BBLS of condensate. This is 0.17 percent of the recoverable reserves in the Green River Basin. Potential production from the WSA is estimated at 59 BCF of natural gas and 83,564 BBLS of condensate. This amounts to 0.12 percent of the recoverable reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

Area Recommended for Designation. Wilderness designation would result in minor benefits to elk, deer, and antelope habitat on 16,360 acres, within the area proposed for designation, by limiting human intrusions (especially ORV use and oil and gas activity). It is anticipated that big game use in the area would increase in the short term as animals are displaced by the oil and gas activity taking place to the east of the WSA. This would increase populations in the WSA by about 50

percent. In the long term, the cumulative impacts of the oil and gas activity taking place to the east of the WSA and the 10,389 acres not recommended for designation would place greater pressure on the habitat in the area recommended for designation.

Area Not Recommended for Designation. The area not recommended for designation (10,389 acres) would have up to 16 wells with approximately 112 acres of surface disturbance due to roads and well pads. The effective habitat lost for elk could be substantially higher. ORV use of the area not recommended would increase, contributing to elk avoidance of this portion of the WSA. The portion of the WSA not recommended for designation constitutes about one half of one percent of the Steamboat elk hunt area. Other areas of the larger Steamboat elk hunt area generally receive higher use levels than the WSA. Motorized vehicle use on the railroad bed would probably result in some avoidance of the area by big game. The area not recommended for designation constitutes only 0.5 percent of the elk hunt area.

Big game are currently being displaced into the eastern portion of the WSA, which is not recommended for designation. This effect would continue. In the next 5 to 10 years, oil and gas exploration and development would move into the eastern portions of the WSA. This would result in the displacement of big game from this area.

Conclusion. Avoidance of the area by big game because of motorized vehicle use and oil and gas activity is expected to occur. Big game numbers in the WSA would increase until carrying capacity is reached. The impacts to big game numbers from the Small Partial Wilderness alternative would be similar to the Large Partial Wilderness alternative because the portions of the WSA not recommended under this alternative and recommended under the Large Partial Wilderness alternative are considered to be low potential for oil and gas development.

Impacts to Wilderness Values

Area Recommended for Designation. The naturalness, opportunities for solitude and primitive recreation, and unique supplemental values would be protected in the area recommended for designation because disturbance would not be allowed on 16,360 acres. Naturalness and solitude would not be protected on 560 acres of pre-FLPMA leased acreage.

Area Not Recommended for Designation. The naturalness, opportunities for solitude and primitive recreation associated with the lands within the WSA not recommended for wilderness (10,389 acres) would be lost or reduced. Portions

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of the area not recommended for wilderness contain intrusions which detract from its naturalness. Area not recommended for designation will be within the Greater Sand Dunes Recreation ACEC (38,480 acres of public land and 2,290 acres of private land) and will continue to be managed in accordance with the ACEC management plan. Hunters would not be allowed to use motorized vehicles on 3,064 acres in the ACEC. On the remaining 7,165 acres, hunting would be allowed and motorized vehicles would be limited to existing roads and trails.

The railroad bed at the western boundary of the WSA would be maintained so that it is open to travel. Sand would be cleared at points where sand would otherwise blow over the railroad bed and close it to travel. Current use (200 to 250 visitor-days annually) would continue and may increase to about 300 visitor-days annually as more people become aware of the existence of the bed for vehicle travel. This area contains both ice pools and active dunes. The eolian ice cells (one of the supplemental values in the Sand Dunes WSA) would be preserved through ACEC management plan stipulations even if development occurs.

The area not recommended for designation also includes most of the intrusions due to motorized vehicles (4,000-acre northern portion) and the 2,125-acre eastern portion containing the 3 producing wells.

Conclusion. Naturalness and solitude would be affected on 10,389 acres of the WSA that would not be designated. Solitude would be lost when motorized vehicles are used for production related activities on 560 acres of pre-FLPMA leased acreage. Naturalness and solitude would be preserved on 16,360 acres recommended for designation. The Greater Sand Dunes Recreation ACEC would continue to be managed in accordance with the ACEC management plan except where wilderness management is more restrictive on any area designated as wilderness. Hunters would not be allowed to use motorized vehicles on 3,064 acres in the ACEC. On the remaining 7,165 acres, hunting would be allowed and motorized vehicles would be limited to existing roads and trails. There would be 500 to 600 visitor-days annually for nonmotorized recreation and 150 visitor-days of motorized use within the ACEC outside the recommended area for designation.

Impacts to Recreation Opportunities

Area Recommended for Designation. In the short term, the number of hunter-days spent in the WSA would remain about the same (70 to 80 hunter-days annually). In the long term, the number of

hunter-days would increase to 100 hunter-days annually because oil and gas activities to the east of the WSA would displace big game into the WSA increasing the opportunity for hunter success and the attractiveness of the area to hunters. As development begins in the eastern portion of the WSA (not recommended for designation), the increased hunter use would occur in the area recommended for designation. The increase is expected to be similar to the increase expected under the Large Partial Wilderness Alternative because neither alternative recommended designation of the eastern portions of the WSA. This is the area that is most likely to be subject to oil and gas exploration and development.

In the long term, hiker use would increase slightly (about 100 to 125 visitor-days annually) to about 500 to 600 visitor-days annually.

All off-road vehicle use would be eliminated. This would have an adverse impact on off-road vehicle enthusiasts who use the part of the area recommended for designation. For analysis purposes, it is assumed that all of the 375 to 400 users for off-road vehicle recreation use the area recommended during at least part of their visit. Most users cross over the boundary of the area recommended and the area not recommended during their visit. They would also cross over the boundary of the WSA. Approximately 100 of the 400 visitor-days lost in the area recommended would shift to the area not recommended and 300 would shift outside the WSA.

Overall, the amount of recreation use of the area is expected to decrease (200 to 225 visitor-days annually) in the short term. The change from motorized to nonmotorized use within the area recommended for designation would cause some shift in use. However, most of the motorized use is currently occurring within the designated open ORV area. This will increase as the result of the displaced motorized use (approximately 150 visitor-days annually). But recreation use in the vicinity of the WSA is expected to increase because of the shift of users from the WSA into nearby areas, increased regional demand, the perceived added diversity if the area proposed is designated as wilderness, and the established open ORV area.

Area Not Recommended for Designation. Recreation use, both for hunters and for off-road vehicle enthusiasts is expected to increase to absorb some of the users who have been displaced from the area recommended for designation. The percent of displaced recreation users who would use the part of the WSA not recommended for designation, rather than other areas, is unknown. For analysis purposes, we have assumed this to be approximately 50 percent for hunters (12 to 20

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visitor-days annually) and 25 percent for off-road vehicle enthusiasts (95 to 100 visitor-days annually). The lower percentage for off-road vehicle enthusiasts is due to the existence of the designated open ORV "play" area near the WSA. It is expected that most displaced recreationists would use the open area.

There would be continued off-road vehicle use in the western portion of the WSA adjacent to the railroad bed where there is some current use. Current use would continue. There would be approximately 200 to 250 visitor-days annually from this access point. This activity would also displace some big game into the area recommended for designation.

Conclusion. From within the area recommended for designation, approximately 200 visitor-days annually would be lost in the short term, mostly for off-road vehicle recreation. Hunting in the WSA would increase from about 70 to 80 visitor-days annually to 100 visitor-days annually. Hunting quality would increase because of an increased number animals displaced by oil and gas activities to the east of the WSA and in the eastern portions of the the WSA (not recommended for designation).

Impacts of the Alternative (All Wilderness)

The All Wilderness Alternative would be that all 27,309 acres of the Sand Dunes WSA be recommended as suitable for wilderness designation. This area includes 26,509 acres of public land, 640 acres of state land, and 180 acres of private land. There is one well and 7 acres of disturbance on 560 acres of pre-FLPMA leased land. Although no additional wells are anticipated, oil and gas activity on the 560-acre pre-FLPMA lease would continue.

Impacts to Oil and Gas Exploration and Production

The opportunity to develop the oil and gas resources would be foregone in the long term on 25,949 acres of federal mineral estate. Recoverable reserves that could be foregone are estimated at 142 BCF of natural gas and 200,983 BBLS of condensate. Potential production from 560 acres of pre-FLPMA leases is estimated at 3 BCF of natural gas and 4,337 BBLS of condensate.

This alternative is the only one which includes the eastern portion of the WSA (approximately 2,125 acres), which has the highest potential for oil and gas production.

Conclusion. Approximately 3 BCF of gas and 4,337 BBLS of condensate would be produced. This amounts to 0.01 percent of the recoverable reserves on the Green River Basin (50,000 BCF of gas). Approximately 142 BCF of gas and 200,983 BBLS of condensate would be foregone. This amounts to 0.28 percent of the recoverable reserves in the Green River Basin.

Impacts to Wildlife Habitat and Populations

Wilderness designation would exclude human intrusions, especially motorized ORV use and oil and gas activities, on 26,749 acres, which would be beneficial to elk habitat in most of the WSA. Adverse impacts to big game habitat where oil and gas activity is allowed would be the same as those described in the Wildlife section under the Proposed Action. Wildlife populations in the WSA would increase as animals are displaced from the area due to ongoing oil and gas activities to the east of the WSA. There would be no adverse impacts to wildlife habitat or wildlife avoidance of the western portions of the WSA because of the closure of the railroad bed to vehicle traffic.

Because the eastern portion of the WSA is recommended for designation under the All Wilderness Alternative, there would be fewer acres subject to a high probability of oil and gas development. These acres would be available to support big game displaced into the WSA by oil and gas activities taking place to the east of the WSA. This additional reduced disturbance due to oil and gas activities and increased acreage available for wildlife habitat would mean that the WSA could support a slightly larger population of big game than under either of the partial wilderness alternatives. The increase in big game numbers would be approximately 25 percent in the long term.

Conclusion. If the entire WSA were designated wilderness, wildlife habitat would be maintained or enhanced because of reduced human activity, particularly motorized activity. Numbers of big game would increase by about 25 percent in the long term, mostly due to the displacement (into the WSA) that is currently occurring because of oil and gas activities to the east of the WSA.

Impacts to Wilderness Values

The area's naturalness, opportunities for solitude that are associated with the sand dune valleys and ridges, primitive recreation, and the unique supplemental values of ice pools and diverse wildlife would be fully protected on 26,749 acres. This excludes valid existing rights exercised on 560 acres of pre-FLPMA leases held by

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production. There would be no additional wells drilled on the pre-FLPMA leases which would have an adverse impact on naturalness. However, activities related to production would result in a loss in solitude on the 560 acres of pre-FLPMA leases. The 560 acres of pre-FLPMA leases constitute 2 percent of the WSA.

Conclusion. Naturalness would be preserved on 27,309 acres. Solitude would be preserved on 26,749 acres. Solitude would be lost on the 560 acres of pre-FLPMA leased acreage. The public's opportunity to enjoy these values, as measured by the number of user days spent in the WSA, increased regional demand, and perceived added diversity, is expected to increase because of the designation of the entire WSA.

Impacts to Recreation Opportunities

The use of the area for the enjoyment of motorized off-road vehicles is expected to decrease by 300 to 350 visitor-days in the short term. The use of the area by hunters is expected to remain the same in the short term (70 to 80 hunter-days annually). In the next 3 to 5 years, as more big game are displaced into the WSA from the oil and gas activities occurring to the east of the WSA, more hunters would use the area because of an increased hunting quality. Hunter use would increase to 100 hunter-days annually. Nonmotorized recreation use would increase by about 100 to 125 visitor-days.

In the long term, the use of the area would be more dependent on public interest or demand for nonmotorized activities, interest in solitude, naturalness and the intrigue offered by the sand dunes, the eolian ice ponds, and diverse wildlife viewing and photography opportunities. Current nonmotorized use levels are 400 to 500 visitor-days annually. However, an All Wilderness alternative is expected to increase this use level in the long term, above that anticipated for the Proposed Action because of: the greater size in area (20 percent); more opportunity to experience solitude; perceived added effect of unaltered diversity increasing the opportunity to experience and witness natural ecological phenomenon; and the active sand dunes which maintain the naturalness and solitude of the area protecting and supporting its wilderness values.

Conclusion. The number of visitor-days spent in the WSA is expected to decrease in the short term (by approximately 300 visitor-days annually). The increase in use for nonmotorized recreation is not expected to compensate for the decrease in off-road vehicle users and hunters. In the long term, visitor-days are expected to increase to a level commensurate with the short-term loss because

of increases in use for hunting, hiking, camping, photography, and other nonmotorized uses. The size of the area would be adequate to accommodate increases in demand by the public who want to participate in activities associated with the enjoyment of wilderness values (solitude, primitive recreation, and natural ecology of the area).

Impacts of the Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 27,309-acre Sand Dunes WSA be recommended as suitable for wilderness designation. There would be a potential for 43 oil and gas wells to be drilled in the WSA, resulting in 301 acres of surface disturbance.

Impacts to Oil and Gas Exploration and Production

Oil and gas leasing would resume in the entire WSA. Oil and gas exploration and development would be allowed throughout the WSA. Recoverable reserves are estimated at 145 BCF of natural gas and 205,320 BBLS of condensate. The average success ratio for wells drilled in the area is expected to be 54 percent. The success ratios in the western, southern, and northern portions of the WSA are expected to be lower than in the eastern portion of the WSA. The success ratios in these areas is likely to be below 10 percent.

Conclusion. Approximately 145 BCF of gas and 205,320 BBLS of condensate would be produced. This amounts to 0.29 percent of the recoverable reserves in the Green River Basin (50,000 BCF of gas). Most of the production is likely to come from the eastern portion of the WSA.

Impacts to Wildlife Habitat and Populations

Human activity, which is expected to increase, would cause adverse impacts to wildlife. Escape cover is a somewhat limiting factor. During the winter and calving and fawning seasons, when the natural stress factors are at a maximum, human activity can cause stress and movement away from crucial habitat and result in detrimental effects on the big game populations if these activities affect big game over a large area.

The 301 acres of surface disturbance, loss of effective habitat, human intrusions, and harassment would adversely affect the desert elk herd and cause them to abandon the area.

Big game numbers in the WSA would increase in the short term (5 years) as they are dis-

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placed from the area to the east of the WSA by ongoing oil and gas activities.

As oil and gas activity begins in the WSA, abandonment of parts of the area is expected to occur; however, the WSA encompasses only a small part of the Steamboat elk hunt area. Big game are currently being displaced from areas to the east of the WSA. Under the No Wilderness Alternative, this would continue and the additional activity in the WSA itself, would result in additional displacement. The western parts of the WSA are not expected to have oil and gas development. In addition, development would occur over several years. These factors indicate that populations may be reduced by 50 percent in the long term, but they would not be lost.

Motorized vehicles and human activity in parts of the WSA near the railroad bed would cause abandonment of some ponds. Due to the lack of availability of similar habitat in the general area of the WSA, this may result in a minor reduction in numbers of birds.

Conclusion. Big game numbers in the WSA would increase in the short term (5 years) as they are displaced from areas to the east of the WSA. Big game numbers may be reduced by 50 percent in the WSA in the long term due to disturbance from oil and gas activities in the WSA. The numbers of birds using the area may be reduced due to continued use of motorized vehicles on the railroad bed, combined with the construction of new roads into the WSA making some of the interior ponds more accessible to motorized vehicles.

Impacts to Wilderness Values

Wilderness values would not be protected on 27,309 acres. Although the management prescriptions of the Greater Sand Dunes Recreation ACEC Management Plan would mitigate some of the adverse impacts to wilderness values associated with oil and gas activity. Opportunities for complete solitude and primitive recreation would be lost until life of the oil and gas development is completed and the area abandoned and reclaimed. Disturbance caused by oil and gas activity and by off-road vehicle enthusiasts would result in a loss of naturalness. The effects of individual oil and gas activities would be more long term than the effects of off-road vehicle enthusiasts, however, the use of off-road vehicle enthusiasts would be recurrent and impacts are expected to be long term.

Conclusion. Some wilderness values would remain. Solitude would be gone in most of the

WSA. The feeling of naturalness would still be present in many of the draws, valleys, and wind-blown basins because the screening they offer would help to keep developments out of sight in many areas. The eolian ice cells would be preserved. Solitude and naturalness would be lost first in the eastern portion of the WSA.

Impacts to Recreation Opportunities

The use of motorized vehicles would be limited to 9 miles of existing roads and trails and 25 miles of new roads constructed to access oil and gas well locations. As a result of the anticipated increase in oil and gas development, overall vehicle accessibility in the WSA would increase. In the short term, motorized vehicle use would increase by about 125 visitor-days annually (mostly associated with hunting). However, due to an anticipated increase in general disturbance and a reduction in hunting quality, it is anticipated that in the long term, the number of hunter-days would be reduced from about 80 hunter-days annually to about 20 hunter-days annually. Similar reasoning would indicate a decrease in visitor use for photography and wildlife observations would be likely. For the most part, the western portion of the WSA would not be affected by oil and gas development because of low potential. Its attractiveness for hiking and photography would remain about the same.

In the short term, it is anticipated that the number of hiker visitor-days would not change from present levels. In the long term, as the oil and gas resource is developed, the suitability of the area for hiking would decline, due to the increased number of access roads. This decrease would be about 75 to 100 visitor-days annually.

Conclusion. The ORV "play" area outside the WSA would continue to be the prime use area for ORV "dune buggy" and other motorized vehicle enthusiasts. In the short term, motorized vehicle use would increase by approximately 125 visitor-days annually (associated with increased hunting and motorized use on existing roads and trails). In the long term, as oil and gas development expands into the WSA, the level of recreation use would return to present levels. The increases and decreases in all types of recreation use mentioned above would be small in relation to the use the area currently receives, and in relation to fluctuations that have occurred due to population changes in the region.

SITE-SPECIFIC ANALYSES — ALKALI DRAW

ALKALI DRAW WSA

Summary Description and Background

The Alkali Draw WSA is in northeastern Sweetwater County about 35 miles northeast of Rock Springs (Map AD-1). The WSA (17,630 acres) consists of 16,990 acres of public land and 640 acres of State land containing a remnant of the Great Divide Basin-Red Desert Area.

Proposed Action and Alternative

The two alternatives analyzed were: 1) that no acreage in the 17,630-acre Alkali Draw WSA be recommended as suitable for wilderness designation and 2) that all 17,630 acres of the Alkali Draw WSA be recommended as suitable for wilderness designation.

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 17,630-acre Alkali Draw WSA be recommended as suitable for wilderness designation. The entire area would be open to oil and gas Leasing. There would be a potential for 27 wells to be drilled, resulting in 189 acres of surface disturbance. Motorized vehicles would be limited to 8.5 miles of existing roads and trails.

Oil and Gas Management

Pre-FLPMA leases (Map AD-2) would continue to be subject to valid existing rights (2,705 acres). All of the pre-FLPMA leases are located in the western portion of the WSA. Oil and gas activity on these pre-FLPMA leases would be allowed, and an estimated 5 wells would be drilled, resulting in 35 acres of surface disturbance.

Unleased lands in the remainder of the WSA (14,285 acres) would be offered for lease. It is estimated that there would be 22 wells drilled, resulting in 154 acres of surface disturbance. The 640-acre State section has been included in the total WSA acreage for analysis purposes. New oil and gas leases and permits for exploration and development on existing leases would be conditioned to protect crucial elk and deer winter habitat. Oil and gas companies would be required to reclaim areas no longer used for exploration or production of oil and gas. However, no actions

would be taken to compensate for habitat loss due to oil and gas activities.

The success ratio for wells drilled is expected to be relatively low at 15 percent, which indicates that development may occur but that intense development and high production is not the most probable scenario. This means that should development occur, the area will most likely be developed well by well rather than by drilling several wells concurrently to develop a field quickly.

Solid Minerals Management

No activity related to locatable or leasable minerals is anticipated. Mineral extraction for salables would be allowed subject to stipulations to protect other resources. No activity related to salable minerals is anticipated.

Off-Road Vehicle Management

Motorized vehicles would be limited to 8.5 miles of existing roads and trails and an additional 15 to 20 miles of access roads constructed to reach oil and gas well sites.

Recreation Management

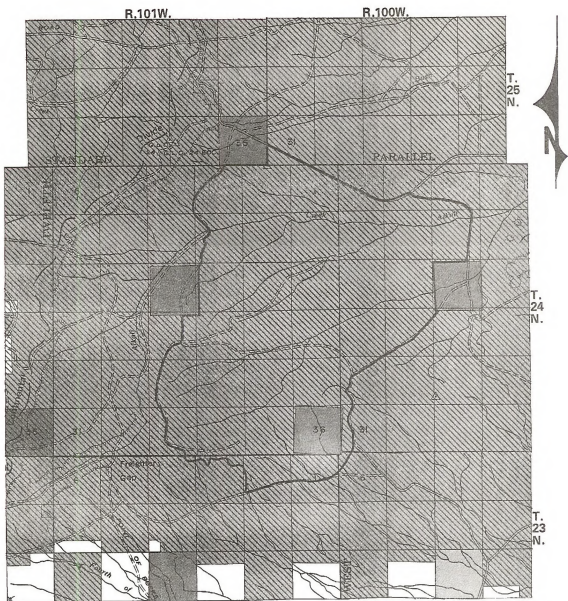
Hunting would be allowed but the use of motorized vehicles would be limited to 8.5 miles of existing roads and trails. No developments associated with recreation are anticipated. The existing recreation uses in the WSA would remain about the same.

Grazing Management

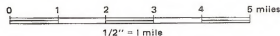
Grazing management practices (Red Desert and Bush Rim grazing allotments) would not change from those currently in place. Within the Alkali Draw WSA, the estimated carrying capacity is 711 AUMs for cattle and 1,117 AUMs for sheep, with use occurring from May 1 to December 15. Other permittees use the area for trailing sheep during the spring and fall. There are no range improvements in the WSA and none are planned. The use of motorized vehicles in connection with range management activities would be allowed. This use would be occasional and would generally not exceed 1 to 2 trips annually into the WSA by ranchers using a pickup truck, to check on livestock.

Wildlife Management

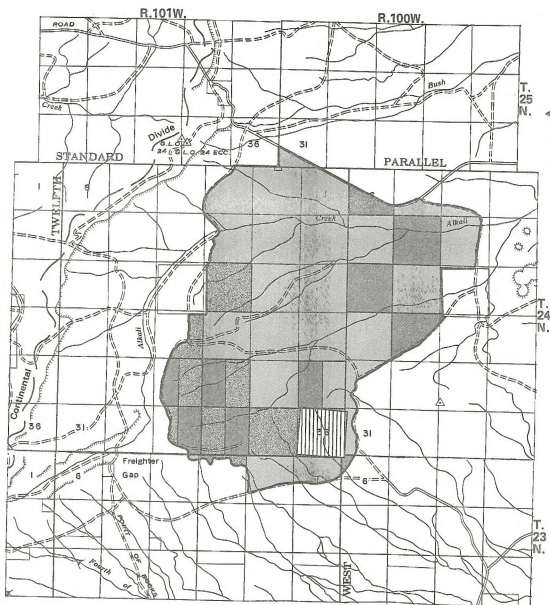
No projects associated with wildlife management are anticipated in the WSA. The area would



- Wilderness Study Area Boundary
- Public Land (Administered by BLM)
- Private Land
- State Land
- Federal Minerals



Map AD-1
Alkali Draw WSA
LAND AND MINERAL STATUS



- Wilderness Study Area Boundary
- Pre-FLPMA Leases
- Post-FLPMA Leases
- Not Presently Leased
- State Minerals

0 1 2 3 4 5 miles
1/2" = 1 mile

Map AD-2
Alkali Draw WSA
OIL AND GAS LEASES

SITE-SPECIFIC ANALYSES — ALKALI DRAW

be managed to provide habitat during crucial winter periods.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 17,630 acres of the Alkali Draw WSA be recommended as suitable for wilderness designation. Oil and gas leases would not be issued in the WSA. Therefore, no surface disturbance on currently unleased BLM-administered lands (14,285 acres) is expected. However, there is a potential for 5 wells to be drilled in the WSA on pre-FLPMA leased land (2,705 acres), resulting in 35 acres of surface disturbance. The 640-acre State section has been included in the total WSA acreage for analysis purposes.

Oil and Gas Management

Pre-FLPMA leases would continue to be subject to valid existing rights (2,705 acres), and development of the oil and gas resources on these leases would be allowed under those valid existing rights. It is estimated that there would be 5 wells drilled, resulting in 35 acres of surface disturbance. When individual wells are authorized, stipulations would be included which would protect crucial elk and deer winter habitat.

Unleased lands in the rest of the WSA (14,925 acres) would not be offered for lease. No oil and gas exploration or development would occur on this portion of the WSA.

The success ratio for wells drilled is expected to be 15 percent. This success ratio is relatively low. It indicates that development may occur but that intense development and high production is not the most probable scenario. This means the area will most likely be developed well by well rather than by drilling several wells concurrently to develop the field quickly.

Solid Minerals Management

No activity related to locatable or leasable minerals is anticipated. Mineral extraction for salables would not be allowed. No activity related to solid minerals is anticipated.

Off-Road Vehicle Management

Motorized vehicles would be prohibited, except in connection with valid existing rights (pre-FLPMA leases). Approximately 2 to 3 miles of new access roads would be constructed to reach oil and gas well sites on pre-FLPMA leased acreage.

Recreation Management

As under the Proposed Action, hunting would be allowed except that hunters would not be allowed to use motorized vehicles in the WSA. No developments associated with recreation are anticipated in the WSA.

Grazing Management

As under the Proposed Action, grazing management practices (Red Desert and Bush Rim grazing allotments) would not change from those currently in place. Within the Alkali Draw WSA, the estimated carrying capacity is 711 AUMs for cattle and 1,117 AUMs for sheep, with use occurring from May 1 to December 15. Other permittees use the area for trailing sheep during the spring and fall. There are no range improvements in the WSA and none are planned. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

All aspects of management relative to wildlife are identical to management under the No Wilderness alternative. When individual wells are authorized, stipulations would be included which would protect crucial elk and deer winter habitat.

Affected Environment

The dominant use of the Alkali Draw area is for livestock grazing, with some hunting and primitive recreation use. Exploration drilling for oil and gas has occurred in the southwestern portion of the area, and it is highly probable that at least part of this area could be within a producing field. However, due to the success ratio for wells (15 percent), further development and production would not be intense.

The Continental Divide, which creates the Great Divide Basin, is north and west of the WSA. Topography varies from the open "washboard" area of Alkali Draw and its tributaries to Alkali Rim, a steep, rugged area with colorful escarpments. Big sagebrush and grass are the dominant vegetation, with saltbush and greasewood common over portions of the area. The WSA provides important habitat for mule deer, pronghorn antelope, and elk.

SITE-SPECIFIC ANALYSES — ALKALI DRAW

No ACECs are associated with the Alkali Draw WSA.

Actions proposed under All Wilderness and No Wilderness would not affect air quality, geology (other than mineral resources), land use, noise, socioeconomic resources, topography, soils, water resources, wetlands, livestock grazing, or wild horses. No threatened or endangered species have been identified. The WSA does not contain alluvial valley floors, prime and unique agricultural lands, floodplains, or wild and scenic rivers.

Mineral Resources

Hydrocarbons are the most valuable potential mineral resource in the Alkali Draw WSA. Extensive drilling activity has been conducted adjacent to the southern portion of the WSA. The western portion of the WSA is within the Treasure Unit, which had a cumulative production of 9,412 barrels (BBL) of oil and 103,910 thousand cubic feet (MCF) of gas from the Muddy sandstone through 1982 (Wyoming Oil and Gas Conservation Commission). The unit was discovered in 1980. Woods Petroleum Corporation has two producing wells (shut-in) just inside the southwest boundary of the WSA. Part of the WSA's southern portion lies within a known geologic structure (KGS). Part of the WSA (2,705 acres) is covered by pre-FLPMA oil and gas leases.

The recoverable reserves per 640 acres in the WSA are estimated at 1.5 billion cubic feet (BCF) of natural gas (38.1 BCF total) and 58,323 barrels (BBLs) of condensate (1,547,892 BBLs total). These figures include possible production from the Lewis, Mesaverde, Frontier, Mowry, and Muddy formations. The success ratio for wells previously drilled in the vicinity of the WSA is 15 percent. It is assumed that this success ratio would apply to the WSA. The Green River Basin (15,046 square miles) is estimated to contain 3.32 BCF of gas per section (square mile) or about 50,000 BCF of gas.

No other mineral resources are known to occur within the WSA.

Wildlife

The Alkali Draw WSA provides good wildlife habitat. Mule deer occupy the entire WSA yearlong. They move to the northern boundary during severe winters to occupy the crucial winter range in that part of the WSA. Elk occupy the western portion of the WSA during the summer, and expand their range during the winter to include the entire area. Valuable pronghorn antelope hab-

itat is found within the WSA. The pronghorn use the area yearlong.

The Alkali Draw WSA (17,630 acres) constitutes 0.9 percent of the 1,999,076-acre Steamboat elk hunt area; 1.3 percent of the 1,295,248-acre Steamboat mule deer hunt area; and 2.5 percent of the 699,036-acre Dry Lake pronghorn antelope hunt area.

Wilderness Values

The BLM inventoried the Alkali Draw area and all contiguous public lands for wilderness characteristics as outlined in the BLM Wilderness Inventory Handbook (BLM 1978d). On the basis of the inventory, BLM determined that the Alkali Draw WSA met the criteria in Section 2(c) of the Wilderness Act of 1964. The findings of the wilderness inventory for each of the four mandatory wilderness characteristics may be summarized as follows:

Size

This WSA contains 16,990 acres of public land and an additional 640 acres of State land (in the southeast corner of the WSA).

Naturalness

The manmade intrusions in the WSA consist of 9 two-track trails and three well sites. The two track trails are noticeable and are used periodically by livestock operators and recreationists.

Outstanding Opportunities

The "washboard" topographic effect contributes to opportunities for solitude. Several persons could be in the WSA and not be aware of each other due to the topographic screening provided by numerous draws or canyons. Opportunities for primitive and unconfined recreation are available. Including hiking, topography, and sightseeing for zoological and geological features. The topographic and geologic features (rims and cliff escarpments) offer challenging hikes and non-technical climbing opportunities.

Supplemental Values

Paleocene fossils (largely snails, clams, and leaves) can be found in several layers of geologic strata, suggesting a former riparian habitat. The gray and yellow coloration associated with the escarpments and the sandstone formations invite geologic exploration. The fossils occur in most of

SITE-SPECIFIC ANALYSES — ALKALI DRAW

the Wasatch Formation and in the Tipton shale of the Green River Formation.

Recreation Opportunities

The primary recreation use of the WSA is hunting. Estimates of use for the hunt areas in which the Alkali Draw WSA is located include 229 hunter-days in the 1,999,076-acre Steamboat elk hunt area; 1,832 hunter-days in the 1,295,248-acre Steamboat mule deer hunt area; and 463 hunter-days in the 699,036-acre Dry Lake pronghorn antelope hunt area. A total of 50 to 60 hunter days are spent in the WSA annually.

ORV use is restricted to existing roads and trails. There is very little use off these existing roads and trails, which provide sufficient access to most of the WSA for hunting purposes.

Other uses are occasional and generally not recurrent. These uses include hiking and photography. The number of user days spent in the WSA for these purposes is very small, probably under 50 user days annually.

Environmental Consequences

The likelihood for some oil and gas development to occur in the area is relatively low. This assumption is based on the success ratio of nearby wells. In the case of the Alkali Draw WSA, the success ratio is estimated at 15 percent, based on exploration and geologic inferences in the vicinity of the WSA. This does not mean that there is a 15 percent likelihood that the area's oil and gas resources will be developed. However, 15 percent is a relatively low success ratio which indicates that the likelihood of development is lower than in many other areas. Currently, 16 percent of the WSA is covered by pre-FLPMA leases concentrated in the western portion of the WSA.

Impacts of the Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 17,630-acre Alkali Draw WSA be recommended as suitable for wilderness designation. There would be a potential for 27 wells to be drilled in the WSA, resulting in 189 acres of surface disturbance. Motorized vehicles would be limited to 8.5 miles of existing roads and trails. An additional 15 to 20 miles of access roads would be constructed to reach oil and gas well sites.

Impacts to Oil and Gas Exploration and Production

Oil and gas leasing would resume in the entire WSA. Oil and gas exploration and development throughout the WSA is expected to increase. The recoverable reserves in the WSA are estimated at 38.1 BCF of gas and 1,547,892 BBLS of condensate. While the entire WSA would be open to oil and gas leasing, the western portion of the WSA is where the highest potential for oil and gas exists and is likely to be where the activity would be concentrated. There is a producing well (shut-in) just inside the WSA boundary and one just outside the southwest WSA boundary.

Conclusion. If the WSA were not designated wilderness, approximately 38.1 BCF of gas and 1,547,892 BBLS of condensate would be recovered from the WSA. This constitutes only about 0.08 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

There would also be a direct loss of 189 acres of wildlife habitat as a result of oil and gas exploration and development activities. Noise and human activity would also cause big game to move away from the area. Big game would be displaced from their natural use areas in the WSA. The direct surface disturbance expected under nondesignation is 189 acres and the habitat available in the hunt area for antelope (the smallest hunt area in terms of acreage encompassing the WSA) is nearly 700,000 acres. Less than 1 percent of the overall habitat would be impacted. Because of this, the effects of human activity resulting in displacement of big game would be negligible.

It is likely that no more than 2 to 3 exploratory wells would be drilled in the next 5 years. These wells would probably be located in the southwestern or western portions of the WSA which is already partially affected by oil and gas activities. As additional wells are drilled over the succeeding 5 years and as production begins, elk and mule deer would be displaced. Most of this displacement would probably occur in the western portion of the WSA.

Because of the effectiveness of mitigation (e.g., the use of seasonal restrictions on oil and gas activities) and the relatively small percentage of the hunt area affected for each species, the overall effect on wildlife of not recommending the area for designation as wilderness would be negligible.

Conclusion. If the WSA is not designated wilderness, there would be some displacement of big

SITE-SPECIFIC ANALYSES — ALKALI DRAW

game when the level of human activity associated with oil and gas exploration and development is highest. The majority of the displacement would occur in the western portion of the WSA. However, because the WSA constitutes only a small portion of the hunt areas for big game, big game numbers are not expected to be affected.

Impacts to Wilderness Values

Statutory protection would not be afforded the area. Oil and gas exploration and development in this area would result in a loss of wilderness character which could not be regained. At least half of the natural character of the area would be lost through the long term as a result of oil and gas exploration and development. Since there is already some development in the southwestern portion of the WSA, additional development in that portion of the WSA is considered very likely. Due to the nature of the WSA, construction, drilling, and other human activity would result in an almost total loss of solitude in that portion of the WSA. Naturalness and solitude would be partially preserved in the remainder of the WSA.

The primitive or wilderness recreation values and opportunities for solitude would be severely impacted or lost if extensive oil and gas development were to occur. If development does not occur, however, these values would remain essentially as they are at present.

Conclusion. If the area were not designated, the area's wilderness values would be lost due to the disturbances created by oil and gas exploration and development activities.

Impacts to Recreation Opportunities

Motor vehicle use would be limited to 8.5 miles of existing roads and trails and the 15 to 20 miles of additional roads constructed to reach oil and gas well sites.

Disturbances created by oil and gas activities may result in a short-term increase (25 percent) in hunting for pronghorn antelope due to the presence of increased access created by 2 to 3 exploratory wells in the next 5 years. This would increase hunter use of the WSA to about 60 to 70 hunter-days annually and would be attributable mostly to antelope because they are least affected by oil and gas activities.

As additional exploratory wells are drilled in the next 10 years and production begins, there would be some displacement of animals (mostly from the western portions of the WSA), resulting in decreased hunter success. Use is not expected to

decline below current levels because the primary big game animal of concern for hunting in the Alkali Draw WSA is pronghorn antelope.

The use of the area for hiking and other nonmotorized uses is expected to remain at its current low levels of approximately 50 visitor-days annually.

Conclusion. Total recreation use in the area is expected to remain at about current levels. These include approximately 50 to 60 hunter-days annually and 50 visitor-days annually for other types of recreation.

Impacts of the Alternative (All Wilderness)

The All Wilderness Alternative would be that all 17,630 acres of the Alkali Draw WSA be recommended as suitable for wilderness designation. Oil and gas leases would not be issued in the WSA. There would be a potential for 5 wells to be drilled on pre-FLPMA leased acreage, resulting in 35 acres of surface disturbance. Approximately 2 to 4 miles of roads would be constructed to reach oil and gas wells on pre-FLPMA leased acreage.

Impacts to Oil and Gas Exploration and Production

There are 2,705 acres of pre-FLPMA leases held by production. Exploration and development would take place on these leases. Oil and gas exploration and development would not take place on the remaining 14,925 acres not under lease.

The opportunity to develop oil and gas resources would be lost for the long term where there are no pre-FLPMA leases held by production (14,925 acres). This potential production is estimated at 31.2 BCF of natural gas and 1,269,272 BBLS of condensate. Production could still occur on pre-FLPMA leases (2,705 acres) that are held by production in the southwestern and western portions of the WSA. This production is estimated at 6.9 BCF of natural gas and 278,620 BBLS of condensate. The opportunity to explore for oil and gas would be lost on 14,925 acres of unleased land.

Conclusion. If the WSA were designated wilderness, approximately 6.9 BCF of gas and 278,620 BBLS of condensate would be recovered from the WSA. Approximately 31.2 BCF of gas and 1,269,272 BBLS of condensate would be foregone from the WSA. This constitutes only about 0.02 percent of estimated reserves in the Green River Basin (50,000 BCF of gas).

SITE-SPECIFIC ANALYSES — ALKALI DRAW

Impacts to Wildlife Habitat and Populations

Oil and gas activities on 2,705 acres of pre-FLPMA leases held by production would continue to cause a direct loss of habitat (35 acres) and displacement of animals in the long term. This area constitutes only a small portion of the hunt areas for big game (0.4 percent for elk; 0.7 percent for mule deer; 1 percent for pronghorn antelope). The 35 acres of direct surface disturbance, as a result of oil and gas exploration and development activities, constitutes only one half of one percent of the WSA.

The hunt area for antelope (the smallest of the hunt areas for big game) contains nearly 700,000 acres. This small acreage, subject to direct disturbance and the human activity resulting in displacement of antelope, is not expected to affect antelope numbers.

Effective habitat loss would be a more important factor for elk and mule deer (up to 20 percent of the WSA may be affected) than for antelope. Twenty percent of the WSA constitutes approximately 0.1 percent of the hunt area for elk and 0.14 percent of the hunt area for mule deer. The greatest potential for oil and gas production is found in the southwestern and western portions of the WSA. This would reduce the cumulative effect to these big game species. The effective habitat loss would be concentrated in an area already experiencing some effective habitat loss due to past activities. This loss would not be significant.

Conclusion. If the WSA were designated wilderness, there would be some displacement of big game, most evident in the southwestern and western portions of the WSA. However, because the area constitutes such a small percentage of the hunt areas for big game, big game numbers as a whole would not be affected.

Impacts to Wilderness Values

Wilderness values, except for solitude, would be fully protected on 14,925 acres which are currently unleased. Wilderness values would not be protected on 2,705 acres where there are existing pre-FLPMA leases. The natural character of this WSA may be impacted where valid existing rights would allow oil and gas exploration and development. This loss in wilderness values due to the sights and sounds of development would be concentrated in the southwestern and western portions of the WSA.

Oil and gas exploration and development on the 2,705 acres of pre-FLPMA leases would result in a loss of naturalness in this portion of the WSA.

Noise from human activity in this area would affect solitude in the rest of the WSA, especially the portion of the WSA adjacent to the pre-FLPMA leased acreage.

The potential limited vehicle use in connection with range management activities would not result in existing trails becoming more visible. Consequently, naturalness would not be affected. The adverse effects on solitude would be occasional and short term.

Conclusion. If the WSA were designated wilderness, a substantial portion of the wilderness values in the WSA would be preserved because only 16 percent of the WSA contains pre-FLPMA leases which would be subject to surface disturbance. This acreage is concentrated in the southwestern and western portions of the WSA. However, solitude and naturalness would be lost on the southwestern and western portions of the WSA where oil and gas exploration and development would take place. This loss in wilderness values would detract from the value of the area as a wilderness area.

Impacts to Recreation Opportunities

The primitive or wilderness type recreation values and opportunities for solitude would be impacted or lost with the development of pre-FLPMA leases on 2,705 acres (16 percent of the WSA) in the southwestern and western portions of the WSA. Current recreation activities in the WSA are associated with the topography and general ruggedness of the area. The development of pre-FLPMA leases is expected to reduce visitor use for nonhunting purposes by about 25 percent (approximately 10 visitor-days annually).

Wilderness designation would eliminate the use of motorized vehicles within the WSA except for uses associated with the exploration and development of pre-FLPMA leases (an additional 2 to 4 miles of roads). The restriction on vehicle use would decrease hunter use within the WSA by 50 to 60 percent (to approximately 25 to 30 hunter-days annually). The anticipated reduction in hunting is not expected to be greater than 50 to 60 percent because most of the WSA is bounded by roads. Much of the current hunter use is by hunters gaining access to the WSA by using these boundary roads.

Conclusion. If the WSA is designated wilderness, there would be a reduction in visitor use of the area for nonhunting purposes (approximately 10 visitor-days annually) and for hunting (approximately 30 hunter-days annually).

SITE-SPECIFIC ANALYSES - SOUTH PINNACLES

SOUTH PINNACLES WSA

Summary Description and Background

This WSA is in northeastern Sweetwater County about 35 miles northeast of Rock Springs. The WSA consists of 10,800 acres in the Red Desert area of the Great Divide Basin (Map SP-1). During the intensive inventory phase, 1,328 acres including a parcel of State land with the original boundary road; a State section containing a well and two roads; and a ¼ mile parcel of public lands containing seismograph lines, were removed from the unit.

Proposed Action and Alternative

The two alternatives analyzed were: 1) that no acreage in the 10,800-acre South Pinnacles WSA be recommended as suitable for wilderness designation and 2) that all 10,800 acres of the South Pinnacles WSA be recommended as suitable for wilderness designation.

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 10,800-acre South Pinnacles WSA be recommended as suitable for wilderness designation. The entire area would be open to oil and gas leasing, subject to surface protection and rehabilitation requirements to protect other resources. There would be a potential for 17 wells to be drilled, resulting in 119 acres of surface disturbance.

Oil and Gas Management

Unleased lands in the entire WSA (10,800 acres) would be offered for lease. It is estimated that there would be 17 wells drilled, resulting in 119 acres of surface disturbance. New oil and gas leases would be conditioned with stipulations to protect sage grouse leks.

Solid Minerals Management

The WSA would be open to locatable minerals, however, no activity related to locatable minerals is anticipated. The area would be open to leasable minerals; however, no interest has been shown and no activity related to leasable minerals is anticipated.

Off-Road Vehicle Management

Motorized vehicles would be limited to existing roads and trails.

Recreation Management

Hunting would be allowed but motorized vehicles would be limited to existing roads and trails. No developments associated with recreation are anticipated in the WSA. The existing recreation uses in the WSA would remain the same.

Grazing Management

Grazing management practices (Red Desert grazing allotment) would not change from those currently in place. Within the South Pinnacles WSA, the estimated carrying capacity is 644 AUMs for cattle and 779 AUMs for sheep, with use occurring from May 1 to December 15. One permittee uses the allotment for trailing sheep during the spring and fall. There are no range improvements in the WSA and none are planned. The use of motorized vehicles in connection with range management activities would be allowed. This use would be occasional with a pickup truck or similar vehicle to check on livestock.

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA. Existing habitat would be managed to maintain existing populations of wildlife. Reclamation of disturbed areas would be required, but no special measures would be taken to offset habitat loss due to development activities.

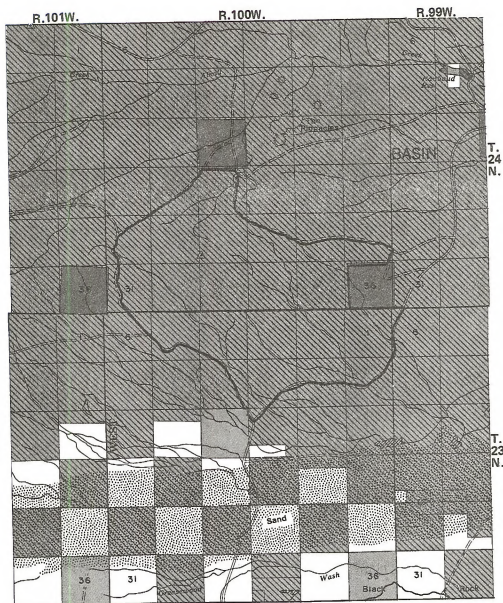
New oil and gas leases would be conditioned with stipulations to protect sage grouse leks.

Alternative (All Wilderness)

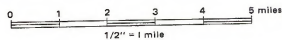
The All Wilderness Alternative would be that all 10,800 acres of the South Pinnacles WSA be recommended as suitable for wilderness designation. There would be no oil and gas leases issued in the WSA. Therefore, there would be no surface disturbance associated with oil and gas exploration or development. Motorized vehicles would be prohibited in the WSA.

Oil and Gas Management

Unleased lands in the South Pinnacles WSA would not be leased. There are no pre-FLPMA oil and gas leases in the South Pinnacles WSA. There



-  Wilderness Study Area Boundary
-  Public Land (Administered by BLM)
-  Private Land
-  State Land
-  Federal Minerals



Map SP-1
South Pinnacles WSA
LAND AND MINERAL STATUS

SITE-SPECIFIC ANALYSES - SOUTH PINNACLES

would be no disturbance associated with the exploration or development of oil and gas resources.

Solid Minerals Management

The WSA would be closed to locatable, leaseable, and salable mineral activity.

Off-Road Vehicle Management

Motorized vehicles would be prohibited.

Recreation Management

As under the Proposed Action, hunting would be allowed, except that hunters would not be allowed to use motorized vehicles in the WSA. No developments associated with recreation are anticipated in the WSA.

Grazing Management

Grazing management practices (Red Desert grazing allotment) would not change from those currently in place. Within the South Pinnacles WSA, the estimated carrying capacity is 644 AUMs for cattle and 779 AUMs for sheep, with use occurring from May 1 to December 15. One permittee uses the allotment for trailing sheep during the spring and fall. There are no range improvements in the WSA and none are planned. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

No developments associated with wildlife management are anticipated in the WSA.

Affected Environment

The dominant use of the South Pinnacles area is for livestock grazing, with some hunting and primitive recreation use.

The otherwise flat topography is broken by rimrocks and ridges running east and west across the WSA. Big sagebrush is the dominant vegetation, with grasses and saltbush being common over

much of the area. The WSA contains important habitat for mule deer and elk. There are no ACECs associated with the WSA.

Mineral Resources

The total recoverable reserves estimated to exist within the 10,800-acre WSA is 24.8 billion cubic feet (BCF) of natural gas and 902,134 barrels (BBLs) of condensate. The recoverable reserves per 640 acres are estimated at 1.5 BCF of natural gas and 902,134 BBLs of condensate. The recoverable reserves in the Green River Basin (15,046 square miles) is about 50,000 BCF of gas.

Between 1962 and 1971, several dry holes were drilled north of the Woods Petroleum well, and Anadarko Production recently drilled a dry hole one mile east of the WSA eastern boundary. A dry hole was drilled one mile west of the WSA western boundary. Another dry hole was drilled by Woods Petroleum immediately to the north of the WSA (section 22, T. 24 N., R. 100 W.). There are no pre-FLPMA leases in the WSA.

No other mineral resources are known to exist in the WSA.

Wildlife

Yearlong habitat for antelope is found in the area. Occasional elk and mule deer may enter the area but the area is not important for these animals or for hunting of these species. Pronghorn antelope use the area yearlong and are hunted annually within the WSA. The South Pinnacles WSA (10,826 acres) constitutes 1.5 percent of the Dry Lake Antelope Hunt Area (699,036 acres).

Wilderness Values

The BLM inventoried the South Pinnacles area and all contiguous public lands for wilderness characteristics as outlined in the BLM Wilderness Inventory Handbook (BLM 1978d). On the basis of the intensive inventory, the Bureau determined that the South Pinnacles WSA met the criteria established in Section 2(c) of the Wilderness Act of 1964. The findings of the wilderness inventory for each of the four mandatory wilderness characteristics are summarized as follows:

Size

The WSA contains 10,800 acres and is entirely public land.

SITE-SPECIFIC ANALYSES - SOUTH PINNACLES

Naturalness

There has been little exploration and development activity in the South Pinnacles WSA. There are six seismograph trails. Only one trail runs all the way through the midsection of the WSA. The other 5 two-track trails run along the WSA boundary or only intrude a short distance into the WSA. Only two of the two-track trails are noticeable. The 1 two-track trail which enters the WSA is very faint, washed out, and considered to be a very minor intrusion. The two-track trails total 6.2 miles within the WSA borders. There is an abandoned drill site approximately 50 yards within the WSA (sec. 9, T. 23 N., R. 100 W.) but it is substantially unnoticeable except for the dry hole marker on the site. Overall, most of the WSA shows very few signs of human activity.

Outstanding Opportunities

The rimrock area provides outstanding opportunities for solitude. The numerous pockets and small draws provide excellent opportunities to avoid the sights and sounds of other people. Although not considered outstanding, primitive and unconfined recreation opportunities do exist, mainly in the rimrock portion of the WSA. These include wildlife observation and photography, and rockhounding. Other opportunities available in the WSA are observation and photography of the many geologic ecosites within the rimrock area.

Supplemental Values

Wildlife is the primary supplemental value. The WSA contains pronghorn antelope and occasional elk and mule deer. Some large prairie dog towns are found within the WSA.

Recreation Opportunities

There are approximately 463 hunter-days spent annually in the Dry Lake Antelope Hunt Area (699,036 acres). The South Pinnacles WSA represents 1.5 percent of the hunt area. There are fewer than 100 visitor-days per year spent in the WSA (including hunting). Approximately half of this total is for hunting.

Environmental Consequences

The likelihood for some oil and gas development to occur in the area is relatively low. This assumption is based on the success ratio of nearby wells. In the case of the South Pinnacles

WSA the success ratio is estimated at 15 percent. This does not mean that there is a 15 percent likelihood that the area's oil and gas resources will be developed. However, 15 percent is a relatively low success ratio which indicates that the likelihood of development is lower than in many other areas.

Impacts of the Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 10,800-acre South Pinnacles WSA be recommended as suitable for wilderness designation. There would be a potential for 17 oil and gas wells to be drilled, resulting in 119 acres of surface disturbance. Motorized vehicles would be limited to existing roads and trails.

Impacts to Oil and Gas Exploration and Production

Oil and gas leasing would resume in the entire WSA. Oil and gas exploration and development throughout the WSA is expected to increase. It is anticipated that no more than 2 to 3 wells would be drilled annually in the WSA. The recoverable reserves per 640 acres in the WSA are estimated at 1.5 BCF of natural gas (24.8 BCF total) and 53,331 BBLS of condensate (902,134 BBLS total). The success ratio for wells drilled is expected to be 15 percent. This success ratio is relatively low. It indicates that development may occur but that intense development and high production is not the most probable scenario. This means that the area will most likely be developed well by well rather than by drilling several wells concurrently to develop the field quickly.

Conclusion. If the WSA were designated wilderness, the oil and gas reserves recovered from the WSA would be 24.8 BCF of gas and 902,134 BBLS of condensate. This constitutes only about 0.05 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

There would be a direct loss of 119 acres of wildlife habitat as a result of the oil and gas exploration and development activities. Effective habitat loss is only slightly more acreage because the big game animal of concern in the South Pinnacles WSA is pronghorn antelope, which are affected less than other big game species by disturbance (e.g., oil and gas construction and drilling activities). The major impact would be the displacement of animals from their natural use areas due

SITE-SPECIFIC ANALYSES - SOUTH PINNACLES

to disturbance from oil and gas exploration and development activities.

The impacts of development to elk and mule deer would be minimal since they are only occasionally found in the WSA. Since the number of wells drilled in the WSA are not expected to exceed 2 to 3 annually, the effects on pronghorn antelope are also expected to be minimal. Due to this small acreage of surface disturbance, and the relatively low sensitivity of pronghorn antelope, oil and gas activities are not expected to result in a change in antelope numbers. The hunt areas for all species of big game are much larger than the WSA and would be capable of supporting the small number of animals that would be temporarily displaced from the WSA.

The biggest single impact of oil and gas activity to big game species would result from constructing and upgrading 10 to 15 miles of access roads for oil and gas wells, which expose escape cover and feeding areas. Pronghorn antelope, which exhibit a high degree of adaptability to oil and gas development, would be subject to poaching losses. These losses would be minimal and are not expected to affect big game numbers. Operators are required to instruct their employees against poaching and are required to ensure that their employees stay within the law. Regulation of the number of hunting licenses in the area and the harshness of the winter would exert much more control over big game numbers.

Conclusion. If the WSA were not designated wilderness, big game numbers would not be adversely affected; however, some displacement of the animals would occur due to oil and gas exploration and development activities. The major factor affecting big game would be the human activity associated with construction and drilling.

Impacts to Wilderness Values

The natural character of the area would be lost as a result of oil and gas exploration and development activities. Primitive or wilderness type recreation values and opportunities for solitude would be adversely impacted due to human activity, oil and gas wells and access roads, and noise. Although the WSA contains 10,800 acres, there is so little topographic relief that the opportunity to retain these values is limited. If even minimal development occurs within the WSA, wilderness values would be adversely impacted. Due to the relatively flat topography, activities which occur outside the WSA would also result in a loss in solitude in about half of the WSA.

There are a number of two-track trails and seismograph lines within the WSA. Increased use of these areas and the construction of 10 to 15 miles of additional roads to access oil and gas well sites would cause virtually all the WSA to lose its wilderness character.

The use of motorized vehicles in connection with range management activities would be occasional and would not affect wilderness values except for the short period of time when the activities are taking place (probably no more than a day or two). These activities would probably not be necessary every year. The occasional use would not result in existing trails becoming more visible.

Conclusion. If the WSA were not designated wilderness, wilderness values would be lost for the long term due to the impacts of oil and gas exploration and development. Noise from oil and gas activities and from other motorized vehicles using oil and gas access roads would adversely affect solitude in the WSA. The low level of topographic relief would result in a loss in naturalness in most of the WSA because oil and gas activities would be visible for long distances within the WSA.

Impacts to Recreation Opportunities

Recreation resources and uses in the WSA would not be significantly impacted as a result of nondesignation. Motorized vehicle use would be limited to existing roads and trails. Currently, there is very little use off the existing trails.

Oil and gas access roads would provide added access to the WSA for hunting, but current use is not expected to change because the population of pronghorn antelope (the primary big game species hunted within the WSA) is not expected to change and because most of the WSA is currently accessible within a two mile distance from roads which surround the WSA. Since antelope is the big game species hunted, the increased access is not expected to result in increased hunting pressure. Therefore, the attractiveness of the WSA for hunting is expected to remain the same. The additional access would make it easier for visitors using motor vehicles to see the WSA, however, the current level of use is very low and no change is expected. The current level of recreation use of the WSA is fewer than 100 visitor-days annually for all types of recreation. Hunting constitutes the majority of the use.

Conclusion. If the WSA were not designated wilderness, there would be no effect on recreation opportunities because oil and gas exploration

SITE-SPECIFIC ANALYSES - SOUTH PINNACLES

and development are not expected to change the types or levels of recreation uses in the WSA. The main use would continue to be hunting for pronghorn antelope. Total use levels would continue to be fewer than 100 visitor-days annually.

Impacts of the Alternative (All Wilderness)

The All Wilderness Alternative would be that all 10,800 acres of the South Pinnacles WSA be recommended as suitable for wilderness designation. Oil and gas leases would not be issued in the WSA. Therefore, there would be no oil and gas exploration and development. Motorized vehicles would be prohibited in the WSA.

Impacts to Oil and Gas Exploration and Production

If the WSA were designated wilderness, no oil and gas leases would be issued. There would be no oil and gas exploration and production. The opportunity to explore for oil and gas would also be lost. The potential production lost is estimated at 24.8 BCF of natural gas and 902,134 BBLs of condensate.

Conclusion. If the WSA were designated wilderness, there would be no oil and gas production from the WSA. An estimated 24.8 BCF of gas and 902,134 BBLs of condensate would be foregone. This constitutes only about 0.05 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

There are no pre-FLPMA oil and gas leases in the WSA and no new oil and gas leases would be issued. Therefore, there would be no human activity or surface disturbance associated with oil and gas exploration and development. No changes in recreation use or use levels are expected. Therefore, wildlife habitat would remain unchanged and no effect on wildlife populations is anticipated. The most important big game species in the WSA would continue to be pronghorn antelope. Their numbers would remain at current levels.

No activity related to salable, leasable, or locatable minerals would be allowed. No surface disturbance would occur. Therefore, no impacts to wildlife habitat or populations would be expected.

Neither wildlife habitat and nor wildlife populations would be affected by recreation because no changes in recreation uses or use levels are expected.

Conclusion. If the WSA were designated wilderness, wildlife habitat would be protected from disturbance and wildlife numbers would be preserved because no activities which could result in adverse impacts would be allowed.

Impacts to Wilderness Values

There would be no surface disturbance allowed in the WSA. Therefore, wilderness values would be preserved. However, wilderness character is limited by the area's openness and the susceptible character of the topography and vegetation to visual and noise intrusions from activities which may take place outside of the WSA. Therefore, while the area may remain natural in character, it may lose some of the values associated with solitude.

The potential limited vehicle use in connection with range management activities would not result in existing trails becoming more visible.

Conclusion. If the WSA were designated wilderness, the area's wilderness values would be preserved.

Impacts to Recreation Opportunities

No development would take place within the WSA, therefore, primitive or wilderness recreation opportunities and the opportunities for solitude would be retained unless development occurred on adjoining lands. However, as wilderness-oriented recreation use of the WSA is minimal at present and is not anticipated to increase, this impact would be minor. Motorized vehicles would be prohibited within the WSA. This would decrease hunter use and sightseeing (which are presently the major recreation uses) by about 10 percent. The designation of the area as wilderness is not expected to increase the public's interest in or use of the area.

Current recreation use of the WSA is fewer than 200 visitor-days annually for all types of recreation, including hunting. This amounts to only a fraction of a percent of the recreation days spent in the general vicinity of the WSA for the same types of recreation. Other areas in the region, within similar driving distances, are used to a greater degree and are adequate to absorb the displaced use.

Conclusion. If the WSA were designated wilderness, there would be a loss of approximately 10 visitor-days in the WSA because the major change that could affect recreation opportunities is the prohibition against motorized vehicles. This use is minimal, and other areas are adequate to absorb the displaced use.

SITE-SPECIFIC ANALYSES - ALKALI BASIN-EAST SAND DUNES

ALKALI BASIN-EAST SAND DUNES WSA

Summary Description and Background

The Alkali Basin-East Sand Dunes WSA is in east-central Sweetwater County about 40 miles northeast of Rock Springs (Map AB-1). The WSA consists of 12,800 acres, including a portion of the Killpecker Sand Dunes within the Red Desert-Great Divide Basin. During the intensive inventory, two units were combined and the acreage reduced from 47,130 acres to its current size.

Proposed Action and Alternative

The two alternatives analyzed were: 1) that no acreage in the 12,800-acre Alkali Basin-East Sand Dunes WSA be recommended as suitable for wilderness designation and 2) that all 12,800 acres of the Alkali Basin-East Sand Dunes WSA be recommended as suitable for wilderness designation.

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 12,800-acre Alkali Basin-East Sand Dunes WSA be recommended as suitable for wilderness designation. The entire area would be open to oil and gas leasing. There would be a potential for 20 wells to be drilled, resulting in 140 acres of surface disturbance. Approximately 14 miles of new roads would be required to reach new oil and gas well sites. Motorized vehicles would be limited to 8 miles of existing roads and trails and the 14 miles of new roads.

Oil and Gas Management

Unleased lands in the WSA (12,800 acres) would be offered for lease. It is estimated that there would be 20 wells drilled, resulting in 140 acres of surface disturbance. Approximately 14 miles of new roads would be required to reach new oil and gas well sites. New leases would be conditioned to restrict disturbance within 500 feet of live water.

Solid Minerals Management

There are no known locatable minerals in the WSA, therefore, no activity is expected. The area would be open to leasable and salable minerals, however, no activity is anticipated. This is primarily because the greatest potential is for sand, which is abundant elsewhere from existing sources.

Off-Road Vehicle Management

Motorized vehicles would be limited to 8 miles of existing roads and trails and the 14 miles of new roads constructed to reach new oil and gas well sites.

Recreation Management

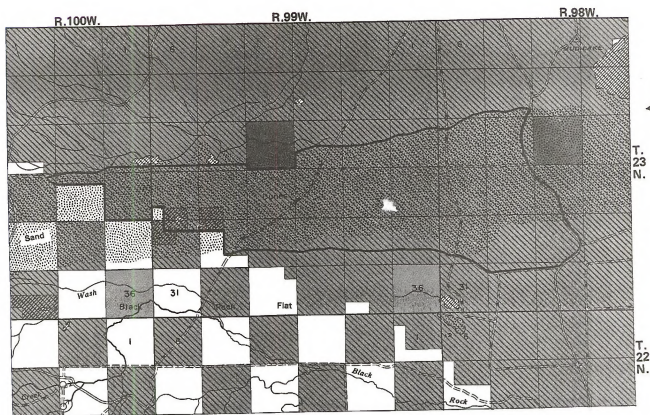
Hunting would be allowed but hunters using motorized vehicles would be limited to existing roads and trails. No developments associated with recreation are anticipated in the WSA. The existing recreation uses in the WSA would remain the same.

Grazing Management

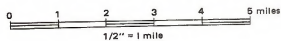
Grazing management practices (Red Desert grazing allotment) would not change from those currently in place. Within the Alkali Basin-East Sand Dunes WSA, the estimated carrying capacity is 1,164 AUMs for cattle and 1,156 AUMs for sheep, with use occurring from May 1 to December 15. One permittee uses the allotment for trailing sheep during the spring and fall. There are no range improvements in the WSA and none are planned. The use of motorized vehicles in connection with range management activities would be allowed. This use would be occasional (generally no more than once or twice annually with a pickup type vehicle) to check on livestock. With the 8 miles of existing roads and the 14 miles of new roads, no use is anticipated off these roads.

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA. Existing habitat would be managed to maintain existing populations of wildlife. New oil and gas leases would be conditioned to restrict disturbance within 500 feet of live water. Oil and gas operators would be required to reclaim unused areas disturbed as a



- Wilderness Study Area Boundary
- Public Land (Administered by BLM)
- Public Water Reserve
- Private Land
- State Land
- Federal Minerals



Map AB-1
Alkali Basin-East Sand Dunes WSA
LAND AND MINERAL STATUS

SITE-SPECIFIC ANALYSES - ALKALI BASIN-EAST SAND DUNES

result of oil and gas activities. However, no additional actions would be undertaken to compensate for habitat loss as a result of oil and gas exploration and development.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 12,800 acres of the Alkali Basin-East Sand Dunes WSA be recommended as suit for wilderness designation. There would be no oil and gas leases issued in the WSA. Therefore, there would be no surface disturbance or human activity associated with oil and gas exploration and development. Motorized vehicles would be prohibited in the WSA.

Oil and Gas Management

Unleased lands in the WSA (12,800 acres) would not be offered for lease. There are no pre-FLPMA oil and gas leases in the Alkali Basin-East Sand Dunes WSA. Therefore, management would not be constrained by this type of valid existing right. No exploration or development would occur.

Solid Minerals Management

Mineral extraction for salables and leasables would not be allowed. No other mineral activity is anticipated.

Off-Road Vehicle Management

Motorized vehicles would be prohibited in the WSA, except in connection with range management activities.

Recreation Management

Hunting would be allowed but hunters would not be allowed to use motorized vehicles. There would be almost 25 visitor-days annually for all types of recreation.

Grazing Management

Grazing management practices (Red Desert grazing allotment) would not change from those currently in place. Within the Alkali Basin-East Sand Dunes WSA, the estimated carrying capacity is 1,164 AUMs for cattle and 1,156 AUMs for sheep, with use occurring from May 1 to December 15. One permittee uses the allotment for trailing sheep during the spring and fall. There

are no range improvements in the WSA and none are planned. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

No actions associated with wildlife management or habitat management are anticipated in the WSA.

Affected Environment

The topography is predominantly rolling sand dunes with elevations varying by only about 100 feet. Much of the WSA is covered by active dunes and devoid of vegetation. Stabilized dune areas are vegetated with big sagebrush, saltbush, and an interesting variety of grasses and forbs. Wildlife in the WSA are pronghorn antelope, small mammals, coyotes, and bobcats. Wild horses frequent the WSA, especially during spring and summer.

The dominant use of the Alkali Basin-East Sand Dune WSA is livestock grazing, with some hunting, primitive recreation, and oil and gas exploration.

Actions proposed under wilderness and no wilderness management would not significantly affect existing air quality, noise, geology (other than mineral resources), land use, socioeconomic resources, soils, topography, vegetation, water resources, wetlands, wild horses and social and economic resources. No threatened or endangered species have been identified in the area. The WSA does not contain alluvial valley floors, prime and unique agricultural lands, floodplains, or wild and scenic rivers.

No ACECs are associated with the Alkali Basin-East Sand Dunes WSA.

Mineral Resources

The primary mineral value in the WSA, as indicated by public interest and industry contacts, is hydrocarbons. Recent exploration for oil and gas centered on the area north of the WSA, where five dry holes have been drilled since 1976. Anadarko Production Company has a producing well (presently shut-in) on the northern edge of the WSA

SITE-SPECIFIC ANALYSES - ALKALI BASIN-EAST SAND DUNES

in sec. 14, T. 23 N., R. 99 W. Two exploratory wells were drilled in the center of the WSA (1979 and 1980). Both were dry holes.

The recoverable reserves per 640 acres in the WSA are estimated at 3.7 billion cubic feet (BCF) of natural gas (73.1 BCF total) and 71,238 barrels (BBLS) of condensate (1,424,763 BBLS total). The success ratio for wells drilled is expected to be 15 percent. This success ratio is relatively low. It indicates that development may occur but that intense development and high production is not the most probable scenario. The area will most likely be developed well by well rather than by drilling several wells concurrently to develop the field quickly. The Green River Basin (15,046 square miles) is estimated to contain about 50,000 BCF of gas.

No other mineral resources (except for sand, a salable mineral) are known to exist in the WSA.

Wildlife

The Alkali Basin-East Sand Dunes WSA provides fair habitat for wildlife. Valuable pronghorn antelope habitat is found within the WSA. These animals use the area yearlong. The Alkali Basin-East Sand Dunes WSA (12,800 acres) constitutes 1.2 percent of the Table Rock Antelope Hunt Area (1,070,560 acres). The Sands elk herd occasionally inhabits the WSA during the winter months. Coyotes are common throughout the WSA, and bobcats are uncommon residents.

Wilderness Values

The findings of the wilderness inventory for each of the four mandatory wilderness characteristics may be summarized as follows:

Size

The Alkali Basin-East Sand Dunes WSA contains 12,800 acres of public land.

Naturalness

The Alkali Basin-East Sand Dunes WSA is essentially in a natural condition. Manmade intrusions in the WSA are 3 abandoned well sites, a shut-in gas well, and 2 two-track trails (approximately 8 miles). At the time of the intensive inventory, the two-track trails, one of the abandoned well sites, and the shut-in gas well were insignificant to the overall natural character. The other two abandoned well sites were temporary distur-

ances allowed under BLM Interim Management Policy.

Outstanding Opportunities

Many large sand dunes, draws, and ridges in the southern half of the WSA provide excellent natural screening from the sight and sound of others. The dune area provides the best opportunity for solitude. The area provides opportunities for unconfined recreation, including wildlife photography and observation and hunting. Hunting in the Alkali Basin-East Sand Dunes WSA is mostly for pronghorn antelope and sage grouse.

Supplemental Values

The Killpecker Dunes, the largest active sand dune region in North America, traverse the WSA. This WSA includes a remnant of the Red Desert area of the Great Divide Basin. The region may be of scientific value for the study of active sand dunes, their movements, and how they are stabilized.

The southern portion of the WSA includes part of the Killpecker Sand Dunes, imparting a rolling landscape to that part of the area. The Alkali Creek portion of the area features draws and ridges that provide relief to the relatively flat and unvaried topography of most of the WSA. The low active dunes are devoid of vegetation, while big sagebrush and rabbitbrush are common on the stabilized dunes. Small wet and dry meadows are found between the dunes.

Recreation Opportunities

There are approximately 1,000 hunter-days spent in the Dry Lake Antelope Hunt Area. Less than 75 visitor-days per year are spent in the WSA for all types of recreation (including hunting).

Environmental Consequences

The likelihood for some oil and gas development to occur in the area is relatively low. This assumption is based on the success ratio of nearby wells. In the case of the Alkali Basin-East Sand Dunes WSA the success ratio is estimated at 15 percent. This does not mean that there is a 15 percent likelihood that the area's oil and gas resources will be developed. However, 15 percent is a relatively low success ratio which indicates that the likelihood of development is lower than that in many other areas.

SITE-SPECIFIC ANALYSES - ALKALI BASIN-EAST SAND DUNES

Impacts of the Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 12,800-acre Alkali Basin-East Sand Dunes WSA be recommended as suitable for wilderness designation. There would be a potential for 20 oil and gas wells to be drilled in the WSA, resulting in 140 acres of surface disturbance. Motorized vehicles would be limited to 8 miles of existing roads and trails.

Impacts to Oil and Gas Exploration and Production

Under the Proposed Action (No Wilderness), oil and gas leasing would resume in the entire WSA. Oil and gas exploration and development throughout the WSA is expected to increase. The recoverable reserves per 640 acres in the WSA are estimated at 3.7 BCF of natural gas (73.1 BCF total) and 71,238 BBLs of condensate (1,424,763 BBLs total). The success ratio for wells drilled is expected to be 15 percent. This success ratio is relatively low. It indicates that development may occur but that intense development and high production is not the most probable scenario. This means that the area would most likely be developed well by well rather than by drilling several wells concurrently to develop the field quickly.

Conclusion. If the WSA were not designated wilderness, oil and gas resources recovered from the WSA would be 73.1 BCF of gas and 1,424,763 BBLs of condensate. This constitutes 0.15 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

Wilderness values in the WSA would not be protected. There would be some loss of habitat as a result of the oil and gas exploration activities. The major impact would be the displacement of animals from their natural use areas. The displacement for antelope would be minimal because they are less sensitive to human activity and because the WSA is yearlong habitat (rather than crucial winter habitat) for antelope. Elk would be affected to a greater degree and would be displaced up to one mile from human activity associated with construction and well drilling activities. The effects of displacement for antelope and elk would be less during production. Since there have been 5 dry holes drilled immediately north of the WSA and 2 dry holes in the WSA, intensive development over a short period of time is not anticipated. This factor would limit the human activity in the WSA

at any one time and would limit the displacement of big game.

Big game would be displaced from the WSA and would move to adjacent areas. These adjacent areas are also a part of the same hunt area for big game species. The WSA is yearlong habitat for antelope. It makes up only 1.2 percent of the hunt area for antelope and only a small part of the WSA (slightly over 1 percent) would be directly impacted by oil and gas activities. Impacts to the directly affected portion of the WSA would not occur concurrently and would not be entirely cumulative because they would occur over 10 to 20 years of oil and gas activities in the WSA. Therefore, the nearby areas would be capable of supporting the displaced animals and big game numbers are not expected to change.

Recreation activities in the WSA are not expected to change and would not affect wildlife habitat or populations.

Conclusion. If the WSA were not designated wilderness, there would be some temporary displacement of antelope from parts of the WSA experiencing oil and gas development. Antelope are relatively tolerant of human disturbance. Because only a small portion of the WSA would be affected over 10 to 20 years of oil and gas development and because this constitutes only a small portion of the hunt area and the species' yearlong habitat, antelope numbers would not be affected.

Impacts to Wilderness Values

If the Proposed Action were implemented, the natural character of the area would be impaired as a result of oil and gas exploration activities. The primitive or wilderness type recreation values and opportunities for solitude would be lost.

Although the WSA contains 12,800 acres, it is relatively flat and the opportunities for solitude are limited. The dunes in this WSA are relatively low dunes with associated smaller gullies and canyons. Noise from oil and gas exploration and development activities would result in a loss in solitude in the WSA. An estimated 20 oil and gas wells would be drilled in the WSA, along with the construction of needed access roads. These activities would probably take place over several years. Because the activities would probably occur in several years, the loss in solitude is viewed as a long-term impact.

The surface disturbances caused by oil and gas exploration and development activities would result in a loss in naturalness in much of the WSA.

The use of motorized vehicles in connection with range management activities would be occa-

SITE-SPECIFIC ANALYSES - ALKALI BASIN-EAST SAND DUNES

sional and would not affect wilderness values except for the short period of time when the activities are taking place (probably no more than a day or two). These activities would probably not be necessary every year. The occasional traffic would probably not result in existing trails becoming more visible.

Conclusion. If the WSA were not designated wilderness, the area's wilderness values in the WSA would be lost due to the impacts of oil and gas exploration and development.

Impacts to Recreation Opportunities

Recreation opportunities and uses within the WSA would not be significantly impacted. Motorized vehicles would be limited to 8 miles of existing roads and trails. Currently, there is very little use off the existing roads or trails. The primary recreation uses, hunting and sightseeing, would not be significantly affected.

Conclusion. If the WSA were not designated wilderness, recreation use in the area would be expected to remain at about current levels.

Impacts of the Alternative (All Wilderness)

The All Wilderness Alternative would be that all 12,800 acres of the Alkali Basin-East Sand Dunes WSA be recommended as suitable for wilderness designation. There would be no oil and gas leases issued in the WSA. There would be exploration or developments associated with oil and gas resources. Motorized vehicles would be prohibited in the WSA.

Impacts to Oil and Gas Exploration and Production

The opportunity to develop oil and gas resources would be lost for the long term. The potential production lost is estimated at 73.1 BCF of natural gas and 1,424,763 BBLS of condensate. The opportunity to explore for oil and gas resources would also be foregone in the entire WSA.

The relatively low success ratio for wells drilled indicates that development may have occurred but that intense development and high production would not be the most probable scenario. This means that the area would be most likely to be developed well by well rather than by drilling several wells concurrently to develop the field quickly.

Conclusion. If the WSA were designated wilderness, there would be no oil and gas production from the WSA. An estimated 73.1 BCF of gas and 1,424,763 BBLS of condensate would be foregone. This constitutes 0.15 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

Due to the lack of development and human activity in the WSA, there would be no effect on big game animals. Antelope are the main big game species in the WSA. They are not likely to be affected even if development begins on nearby areas.

Conclusion. If the WSA were designated wilderness, there would be no effect on wildlife habitat or populations.

Impacts to Wilderness Values

Most wilderness values in the WSA would be protected. However, the area's relatively small size (12,800 acres), openness, lack of topographic relief, and common character of vegetation would result in the area being susceptible to adverse impacts to wilderness values from actions occurring outside of the WSA which would severely limit its manageability as wilderness. This could result in a loss in solitude. Although the WSA contains 12,800 acres, it is relatively flat and the opportunities for solitude are limited. If even minimal development occurred on adjoining lands, the wilderness values in the WSA would be adversely impacted.

The potential limited vehicle use in connection with range management activities would probably not result in existing trails becoming more visible.

Conclusion. If the WSA were designated wilderness, the area's wilderness values would be retained unless development occurs on adjacent areas, resulting in a loss of solitude in the WSA.

Impacts to Recreation Opportunities

Wilderness designation would prohibit the use of motorized vehicles (including over-snow vehicles) within the WSA. This would decrease hunter use and sightseeing, which are the major recreation uses at present. The recreation use in the WSA is estimated at fewer than 75 visitor-days annually. This would be reduced to about 25 visitor-days annually if the WSA is designated wilderness and motorized vehicles are prohibited. These uses would be displaced to adjacent areas where

SITE-SPECIFIC ANALYSES - RED LAKE

vehicle access is less restricted. The designation of the area as wilderness is not expected to increase the public's interest in or use of the area.

Conclusion. If the WSA were designated wilderness, some users would be displaced to other areas. However, because the numbers of users that would be displaced is very small (fewer than 50 visitor-days annually) and opportunities in nearby areas are abundant, no effect on recreation opportunities is expected.

RED LAKE WSA

Summary Description and Background

This WSA is in east-central Sweetwater County about 50 miles northeast of Rock Springs (Map RL-1). The WSA is adjacent to the Alkali Basin-East Sand Dunes WSA, separated by a gravel road. The WSA consists of 9,515 acres, including a portion of the Killpecker Sand Dunes in the Red Desert area of the Great Divide Basin. The acreage was reduced from 10,602 acres during the intensive inventory.

Proposed Action and Alternative

The two alternatives analyzed were: 1) that no acreage in the 9,515-acre Red Lake WSA be recommended as suitable for wilderness designation and 2) that all 9,515 acres be recommended as suitable for wilderness designation.

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 9,515-acre Red Lake WSA be recommended as suitable for wilderness designation. The entire area would be open to oil and gas leasing. There would be a potential for 15 wells to be drilled, resulting in 105 acres of surface disturbance. Motorized vehicles would be limited to 2 miles of existing roads and trails and an additional 7 to 10 miles of road constructed to reach oil and gas well sites.

Oil and Gas Management

Oil and gas leasing in the WSA would resume. It is estimated that there would be 15 wells drilled,

resulting in 105 acres of surface disturbance and 7 to 10 miles of new roads. New oil and gas leases on a portion of the WSA on the far east end would be conditioned to protect crucial deer winter range.

Solid Minerals Management

Mineral extraction for salables would be allowed subject to surface protection and rehabilitation requirements to protect other resources. However, no such activity is anticipated. No other mineral resources are known to exist in the WSA. Therefore, no activity is expected.

Off-Road Vehicle Management

Motorized vehicles would be limited to 2 miles of existing roads and trails and 7 to 10 miles of new roads.

Recreation Management

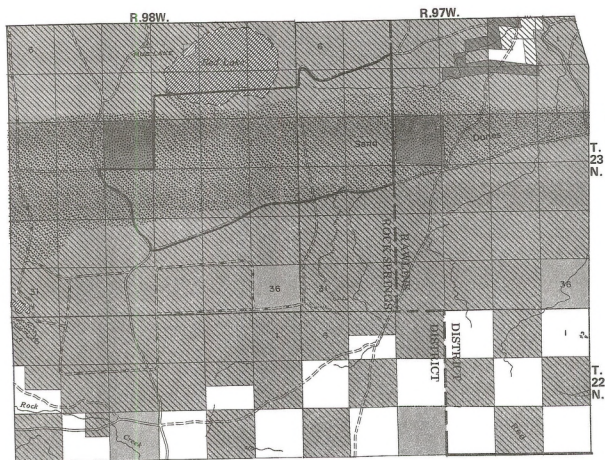
Hunting would be allowed but hunters using motorized vehicles would be limited to existing roads and trails and 7 to 10 miles of new roads. No developments associated with recreation are anticipated. The existing recreation uses in the WSA would remain the same.

Grazing Management

Grazing management practices (Red Desert grazing allotment) would not change from those currently in place. Within the Red Lake WSA, the estimated carrying capacity is 756 AUMs for cattle and 739 AUMs for sheep, with use occurring from May 1 to December 15. One permittee uses the allotment for trailing sheep during the spring and fall. There are no range improvements in the WSA and none are planned. The use of motorized vehicles in connection with range management activities would be allowed. This use would generally be by horse or with a pickup truck or similar vehicle to check on livestock.

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA. New oil and gas leases on a portion of the WSA at the far east end would be conditioned to protect crucial deer winter range. Oil and gas operators would be required to reclaim areas no longer needed for oil and gas exploration and production. However, no actions would be taken to compensate for habitat lost as a result of oil and gas activities.



Map RL-1
Red Lake WSA
LAND AND MINERAL STATUS

SITE-SPECIFIC ANALYSES - RED LAKE

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 9,515 acres of the Red Lake WSA be recommended as suitable for wilderness designation. There would be no oil and gas leases issued in the WSA. Therefore, there would be no surface disturbance associated with exploration or development of oil and gas resources.

Oil and Gas Management

There would be no oil and gas leasing in the WSA. There are no pre-FLPMA oil and gas leases in the Red Lake WSA. Therefore, management of the area would not be constrained by this type of valid existing right. No exploration or development would occur.

Solid Minerals Management

Mineral extraction for salables would not be allowed. No other mineral resources are known to exist. Therefore, no activity is expected.

Off-Road Vehicle Management

Motorized vehicles would be prohibited in the WSA, except for a limited amount of use associated with range management activities.

Recreation Management

Hunting would be allowed except that hunters would not be allowed to use motorized vehicles in the WSA. No developments associated with recreation are anticipated in the WSA.

Grazing Management

Grazing management practices (Red Desert grazing allotment) would not change from those currently in place. Within the Red Lake WSA, the estimated carrying capacity is 756 AUMs for cattle and 739 AUMs for sheep, with use occurring from May 1 to December 15. One permittee uses the allotment for trailing sheep during the spring and fall. There are no range improvements in the WSA and none are planned. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA.

Affected Environment

The dominant use of the Red Lake WSA is livestock grazing, with some hunting and primitive recreation use.

The topography is predominantly low rolling sand dunes. Much of the WSA is covered by the low active dunes and is devoid of vegetation. Stabilized dune areas are vegetated with big sagebrush, saltbush, and a variety of grasses and forbs. Wildlife in the WSA include pronghorn antelope, small mammals, coyotes, and bobcats. The WSA is not part of a wild horse management area. However, wild horses occasionally enter the WSA during spring and summer.

Actions proposed under wilderness and no wilderness management for this area would not significantly affect air quality, soils, topography, geology (other than mineral resources), water resources, wetlands, or wild horses. No threatened or endangered species have been identified in the area. The WSA does not contain alluvial valley floors, prime and unique agricultural lands, floodplains, or wild and scenic rivers.

Mineral Resources

The primary mineral value in the WSA, as indicated by public interest and industry contacts, is hydrocarbons. The oil and gas potential of the WSA is relatively low. The success ratio for wells drilled in the WSA is estimated at 15 percent. Wells drilled east of the WSA usually have some production. An exploratory well north of the WSA in the Mud Lake KGS produced some natural gas and petroleum condensates at 10,359 feet, but was abandoned by Ohio Oil Company in 1960. Wells drilled adjacent to the WSA on the west and south have been dry holes. There are no records of exploration within the WSA itself, where active sand dunes make oil and gas development very difficult. There are no pre-FLPMA oil and gas leases in the WSA.

Ten productive wells near the WSA were evaluated to determine recoverable reserves attributable to each well. Average recoverable reserves per 640 acres was estimated as 3.7 billion cubic feet (BCF) of natural gas (\$5.5 BCF total) and 71,238 barrels (BBLs) of condensate (1,059,109 BBLs total).

SITE-SPECIFIC ANALYSES - RED LAKE

No other mineral resources are known to exist in the WSA.

Wildlife

The Red Lake WSA provides fair habitat for wildlife. Only those major species which commonly occur in the WSA will be discussed.

The WSA contains yearlong pronghorn antelope habitat. The Sands elk herd occasionally inhabits the WSA during the winter months. There is some crucial winter range for deer on the far eastern edge of the WSA. Coyotes are common throughout the WSA, and bobcats occur as occasional residents.

The Red Lake WSA (9,515 acres) constitutes 0.9 percent of the 1,059,288-acre Table Rock mule deer hunt area; 0.9 percent of the 1,070,560-acre Table Rock pronghorn antelope hunt area; and 0.48 percent of the 1,999,076-acre Steamboat elk hunt area.

Wilderness Values

The BLM inventoried the Red Lake area and all contiguous public lands for wilderness characteristics as outlined in the BLM Wilderness Inventory Handbook (BLM 1978d). The Red Lake WSA meets the criteria established in Section 2(c) of the Wilderness Act of 1964. The findings of the wilderness inventory for each of the four mandatory wilderness characteristics is summarized as follows:

Size

The WSA contains 9,515 acres and is entirely public land.

Naturalness

The Red Lake WSA is presently in a natural condition. Intrusions in the WSA include a minor two-track trail, originating off the western boundary road; a well and accompanying water trough, just inside the northern boundary road; and a few random tracks from off-road vehicles.

Outstanding Opportunities

Opportunities for primitive and unconfined recreation exist in the WSA. Raptors, wild horses, pronghorn antelope, coyotes, and a variety of

small mammals also challenge the photographer. Hiking, backpacking, camping, horseback riding, hunting, and sightseeing are other experiences available to the visitor.

Supplemental Values

The Killpecker Sand Dunes, the largest active sand dune region in North America, traverse the WSA from west to east. The WSA includes an unspoiled remnant of the Red Desert area of the Great Divide Basin and was recommended in BLM's Sandy-Pilot Butte MFP (1975) for primitive area designation. This region may be of scientific value for the study of active sand dunes, their movements, and how they are stabilized. Wild horses frequently enter the WSA.

Recreation Opportunities

Estimates of use for the hunt areas in which the Red Lake WSA (9,515 acres) is located include 88 hunter-days in the 1,059,288-acre Table Rock mule deer hunt area; and 1,057 hunter-days in the 1,070,560-acre Dry Lake pronghorn antelope hunt area.

Total recreation use in the WSA for all types of recreation, including hunting, is fewer than 200 visitor-days annually. There would be about 75 hunter-days spent in the WSA and 125 visitor-days including rockhounding, dunes exploration, outdoor education classes, and camping.

Environmental Consequences

The likelihood for some oil and gas development to occur in the area is relatively low. This assumption is based on the success ratio of nearby wells. In the case of the Red Lake WSA, the success ratio is estimated at 15 percent. This does not mean that there is a 15 percent likelihood that the area's oil and gas resources will be developed. However, 15 percent is a relatively low success ratio which indicates that the likelihood of development is lower than in many other areas.

Impacts of the Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 9,515-acre Red Lake WSA be recommended as suitable for wilderness designation. There would be a potential for 15 oil and gas wells to

SITE-SPECIFIC ANALYSES - RED LAKE

be drilled, resulting in 105 acres of surface disturbance. Motorized vehicles would be limited to 2 miles of existing roads and trails and 7 to 10 miles of new roads constructed to reach oil and gas well sites.

Impacts to Oil and Gas Exploration and Production

The recoverable reserves in the WSA has been calculated as 55.5 BCF of natural gas (total) and 1,059,109 BBLS of condensate (total). These quantities of hydrocarbon resources would be recovered over the long term. Because the success ratio for wells drilled in the vicinity of the WSA is relatively low, the area would most likely be developed over the long term rather than in the immediate future. There is also not likely to be a period of concentrated activity associated with oil and gas development. Development is not expected to affect either the local or regional economy because of the long period over which the resource would be recovered and because of the relatively small number of wells that would be needed to develop the resource.

Conclusion. If the WSA were not designated wilderness, the oil and gas reserves recovered from the WSA would be 55.5 BCF of natural gas and 1,059,109 BBLS of condensate. These quantities of hydrocarbon resources would be recovered over the long term. This constitutes only about 0.11 percent of the reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

Big game would be displaced from their natural use areas due to surface disturbance from the development of 15 oil and gas wells and 7 to 10 miles of new roads. These impacts would generally be short term. The displacement would not be important to pronghorn antelope, which use the area yearlong and which would not be displaced. Mule deer use the area to a lesser degree. They would be displaced into other parts of the much larger herd area. Recreation activities are not expected to change. The continuation of current types and low levels of use would not affect big game habitat or populations.

Conclusion. If the WSA were not designated wilderness, there would be no effect on wildlife habitat or populations because the primary effect on big game would be displacement and antelope, which use the area to a greater degree than mule deer, would not be affected. The WSA constitutes only about one percent of the hunt area for both antelope and mule deer.

Impacts to Wilderness Values

Wilderness values would not be afforded statutory protection. Primitive or wilderness type recreation values and opportunities for solitude would be adversely impacted or lost due to oil and gas development. The WSA is relatively small size, relatively open, lacks of topographic relief, and contains vegetation that is generally common in character. These factors would cause the naturalness of the WSA to be impaired as a result of oil and gas exploration activities.

The use of motorized vehicles in connection with range management activities would be infrequent and would not affect wilderness values except for the short period of time when the activities are taking place (probably no more than a day or two). These activities would probably not be necessary every year. The occasional use would not result in existing trails becoming more visible. Solitude would be the only wilderness value adversely affected by these activities.

Conclusion. If the WSA were not designated wilderness, the area's wilderness values of solitude and naturalness would be lost due to the impacts of oil and gas exploration and development.

Impacts to Recreation Opportunities

Recreation resources and uses within the WSA would not be significantly impacted as a result of the Proposed Action. Motor vehicle use would be limited to 2 miles of existing roads and trails and 7 to 10 miles of new roads. At present, there is very little use off these existing trails. The primary identified recreation uses, hunting and sightseeing, would not be significantly affected. Use levels are expected to remain about the same.

Conclusion. If the WSA were not designated wilderness, the quality of the recreation experience for some users would be reduced. Hunting use would remain about the same.

Impacts of the Alternative (All Wilderness)

The All Wilderness Alternative would be that all 9,515 acres of the Red Lake WSA be recommended as suitable for wilderness designation. There would be no oil and gas leases issued. Therefore, no surface-disturbing activities associated with oil and gas development are expected. Motorized vehicles would be prohibited in the WSA, except for a limited amount of use associated with range management activities.

SITE-SPECIFIC ANALYSES - HONEYCOMB BUTTES

Impacts to Oil and Gas Exploration and Production

No oil and gas resources would be recovered from the WSA. This would result in the loss of an estimated 55.5 BCF of natural gas (total) and 1,059,109 BBL of condensate (total). Because of the small size of the WSA, the lack of development within the WSA is not expected to affect either the local or the regional economy.

Conclusion. If the WSA were designated wilderness, there would be no oil and gas production from the WSA. An estimated 55.5 BCF of gas and 1,059,109 BBLs of condensate would be foregone. This constitutes only about 0.11 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

There would be no surface-disturbing activities due to oil and gas exploration and production if the WSA were designated wilderness and no change in recreation use. Motorized vehicles would be prohibited in the WSA. This would mean that motorized vehicles would not be a factor resulting in the displacement of big game animals from the WSA. Therefore, there would be no effects on wildlife.

Conclusion. If the WSA were designated wilderness, there would be no effect on wildlife habitat or populations because there would be no changes in surface disturbance or human activity in the WSA.

Impacts to Wilderness Values

The natural character of the WSA would be retained. The area's size, openness, lack of topographic relief, and common character of vegetation may result in some loss in wilderness characteristics if development takes place on adjacent areas.

However, development on adjacent areas could adversely affect wilderness values of solitude because the Red Lake WSA's small size and lack of topographic relief would allow sights and sounds of activities taking place outside of the WSA to intrude into the WSA.

The potential limited vehicle use in connection with range management activities would not result in existing trails becoming more visible.

Conclusion. If the WSA were designated wilderness, wilderness values would be retained unless development occurs on adjacent areas.

Impacts to Recreation Opportunities

Wilderness designation would eliminate the use of vehicles within the WSA. This would result in a small decrease in hunter use, sightseeing, and other nonmotorized recreation activities which are presently the major recreation uses in the WSA. While these recreation activities are the main uses of the WSA, the number of visitor days spent in the WSA is low (fewer than 200 visitor-days annually). The use would be displaced to other areas where vehicle access is less restricted. The designation of the area as wilderness is not expected to increase the public's interest in or use of the area.

Conclusion. If the WSA were designated wilderness, some uses would be displaced to other areas. Overall, there would be only minimal effect on recreation opportunities because the levels and types of use are low and those uses could easily be accommodated in nearby areas. The public's opportunity to participate in the types of recreation currently available in the WSA would be diminished only slightly in the general vicinity of the WSA.








HONEYCOMB BUTTES WSA

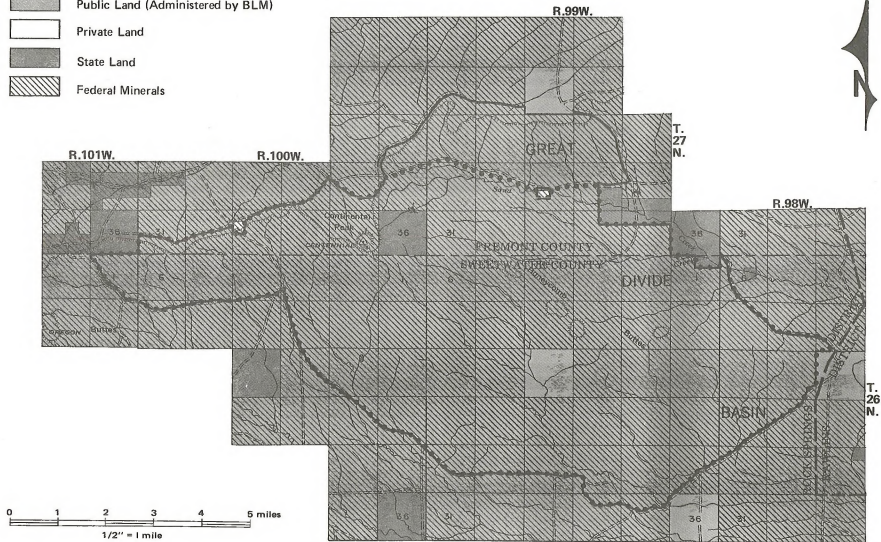
Summary Description and Background

The Honeycomb Buttes WSA is in northeastern Sweetwater County, approximately 52 miles northeast of Rock Springs (Map HB-1). The WSA is approximately 13 miles wide by 8 miles long at its widest point and contains 42,044 acres, including 41,404 acres of public land (including 640 acres of split estate - federal surface and State minerals) and 640 acres of State land and minerals. Under the Proposed Action, 37,927 acres are recommended as suitable for wilderness designation, including 37,287 acres of public land (including 640 acres of split estate) and 640 acres of State land and minerals.

Proposed Action and Alternatives

The three alternatives analyzed in detail were: 1) that 37,927 acres of the 42,044-acre Honeycomb Buttes WSA be recommended as suitable for wilderness designation; 2) that all 42,044 acres of the Honeycomb Buttes WSA be recommended as suitable for wilderness designation; and 3) that

-  Wilderness Study Area Boundary
-  Proposed Wilderness Boundary
-  Proposed Action
-  Public Land (Administered by BLM)
-  Private Land
-  State Land
-  Federal Minerals



Map HB-1
Honeycomb Buttes WSA
LAND AND MINERAL STATUS

SITE-SPECIFIC ANALYSES - HONEYCOMB BUTTES

no acreage in the 42,044-acre Honeycomb Buttes WSA be recommended as suitable for wilderness designation.

Proposed Action (Partial Wilderness)

The Proposed Action (Partial Wilderness) would be that 37,927 acres of the 42,044-acre Honeycomb Buttes WSA be recommended as suitable for wilderness designation. The Bureau of Land Management would manage the southern 37,927 acres under the provisions of the Wilderness Act and the BLM Wilderness Management Policy. The 4,117 acres not recommended for designation would be managed under multiple-use management. This would result in a potential for 6 wells to be drilled in the area not recommended as suitable for wilderness designation, resulting in a potential for 42 acres of surface disturbance. Motorized vehicles would be prohibited in the area recommended for designation and limited to existing roads and trails in the remainder of the WSA.

Before authorizing any surface-disturbing activities, a field check would be performed for the presence of large seeded bladderpod (*Lesquerella macrocarpa*), a sensitive plant species. Activities would be conditioned so as not to adversely affect this population of species.

Oil and Gas Management

There are no pre-FLPMA leases in the Honeycomb Buttes WSA. Therefore, all oil and gas management in the 4,117 acres not recommended for designation would be subject to new leases, as described below.

Area Recommended for Designation. Unleased lands (37,927 acres) would not be offered for lease for oil and gas.

Area Not Recommended for Designation. These currently leased lands (4,117 acres) would be offered for lease. Oil and gas leases would be conditioned to protect raptor habitat and the large seeded bladderpod, and to restrict surface disturbance within 500 feet of Sand Creek. There would be a potential for 6 wells to be drilled, resulting in 42 acres of surface disturbance. Approximately 3 miles of new road would be constructed to reach oil and gas well sites.

Solid Minerals Management

Area Recommended for Designation. The area would not be open to mineral location. No activity related to salable or leasable minerals would be allowed.

Area Not Recommended for Designation. The area would be open to mineral location. Activity related to salable and leasable minerals would be allowed. However, no activity related to salable, locatable, or leasable minerals is anticipated. Although coal, oil shale, uranium, and gold may be present, their development potential is low. There are better sources of coal nearby in areas under lease.

Off-Road Vehicle Management

Area Recommended for Designation. Motorized vehicles would be prohibited. There are currently 3.5 miles of existing trails in the area recommended for designation. Ranchers would be required to contact the BLM prior to entering the area recommended for designation using a motorized vehicle.

Area Not Recommended for Designation. Motorized vehicles would be limited to existing roads and trails. Approximately 4.5 miles of existing road separates the area recommended for designation from the area not recommended for designation. Vehicles could utilize this existing road.

Recreation Management

No developments associated with recreation management are planned in the WSA. Rockhounding would continue to occur.

Area Recommended for Designation. Hunting would be allowed; motorized vehicles would be prohibited. There would continue to be approximately 40 hunter-days spent annually in the WSA, mostly for antelope and sage grouse. Rockhounding would continue to occur.

Area Not Recommended for Designation. Hunting with motorized vehicle would be allowed, with vehicles limited to 4.5 miles of existing roads and trails and, potentially, 3 miles of new roads.

Grazing Management

The grazing management practices (Red Desert and Continental Peak grazing allotments) would not change from those currently in place. Within the Honeycomb Buttes WSA, the estimated carrying capacity is 1,919 AUMs for cattle and 2,988 AUMs for sheep, with use occurring from May 1 to November 30.

Area Recommended for Designation. There are nine livestock reservoirs in the area; however, most are not functional, and in disrepair. Only one reservoir along Red Creek has been determined as necessary for reconstruction. The remaining

SITE-SPECIFIC ANALYSES - HONEYCOMB BUTTES

reservoirs would not be scheduled for reconstruction and continue to be nonfunctional. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Area Not Recommended for Designation. Livestock grazing management would be the same as that described for the area recommended for designation except that vehicle use for maintenance, management, and construction activities would utilize mostly existing roads and trails.

Wildlife Management

Area Recommended for Designation. No projects associated with wildlife management are anticipated.

Area Not Recommended for Designation. Oil and gas operators would be required to reclaim disturbed areas no longer needed for oil and gas exploration and production. However, no actions would be undertaken to compensate for habitat lost as a result of oil and gas activities. There would be pothole development in a wet bog for designation for wildlife and livestock use. This would be undertaken at the locations of the washed out reservoirs.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 42,044 acres of the Honeycomb Buttes WSA be recommended as suitable for wilderness designation. No oil and gas activity would take place. Generally, motorized vehicles would be prohibited in the entire WSA. The use of motorized vehicles in connection with range management activities would be allowed on a limited basis. There are 640 acres of State land and minerals, 640 acres of split estate, and 40 acres of private land in the WSA. The private land was cherrystemmed outside the boundary of the WSA.

Oil and Gas Management

There are no pre-FLPMA leases in the Honeycomb Buttes WSA. No oil and gas leases would be issued in the WSA. Therefore, there would be no surface disturbance associated with oil and gas exploration or development.

Solid Minerals Management

The WSA would not be open to mineral location. Activity related to leasable or salable minerals would not be allowed. However, no activity related to salable, locatable, or leasable minerals is anticipated. Although coal, oil shale, uranium, and gold may be present, their development potential is low. There are better sources of coal nearby in areas under lease.

Off-Road Vehicle Management

Motorized vehicles would be prohibited in the entire WSA, except for limited use in connection with range management activities.

Recreation Management

Hunters would not be allowed to use motorized vehicles in any part of the WSA. There would continue to be approximately 40 hunter-days spent annually in the WSA, mostly for antelope and sage grouse. Rockhounding would continue to occur.

Grazing Management

The grazing management practices (Red Desert and Continental Peak grazing allotments) would not change from those currently in place. Within the Honeycomb Buttes WSA, the estimated carrying capacity is 1,919 AUMs for cattle and 2,988 AUMs for sheep, with use occurring from May 1 to November 30. There are nine livestock reservoirs in the area; however, most are not functional, and in disrepair. Only one reservoir along Red Creek has been determined as necessary for reconstruction. The remaining reservoirs would not be scheduled for reconstruction and continue to be nonfunctional. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

No projects associated with wildlife management would be anticipated in the WSA.

SITE-SPECIFIC ANALYSES - HONEYCOMB BUTTES

Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 42,044-acre Honeycomb Buttes WSA be recommended as suitable for wilderness designation. The entire area would be open to oil and leasing. This would result in a potential for 66 wells to be drilled in the WSA, resulting in 462 acres of surface disturbance. Motorized vehicles would be limited to 8 miles of existing roads and trails and an estimated 35 to 40 miles of new roads needed to reach oil and gas well sites.

Before any surface disturbing activities are authorized, a field check would be performed for the presence of large seeded bladderpod (*Lesquerella macrocarpa*), a sensitive species. Leases would be conditioned so as not to adversely affect this populations of species.

Oil and Gas Management

Unleased lands in the WSA (42,044 acres) would be offered for lease. Oil and gas leases would be conditioned with stipulations to protect raptors and big game winter range (elk and deer). There would be restrictions on surface disturbance within 660 feet of live water to protect two natural springs near the center of the WSA.

There would be a potential for 66 wells to be drilled in the WSA, resulting in 462 acres of surface disturbance. Approximately 35 to 40 miles of new roads would be constructed to reach oil and gas well sites.

Solid Minerals Management

The entire WSA would be open to mineral location. Activity related to salable and leasable minerals would be allowed. However, no activity related to salable, locatable, or leasable minerals is anticipated. Although coal, oil shale, uranium, and gold may be present, their development potential is low. There are better sources of coal nearby in areas under lease.

Off-Road Vehicle Management

Motorized vehicles would be limited to 8 miles of existing roads and trails and an estimated 35 to 40 miles of new roads needed to reach oil and gas well sites.

Recreation Management

Hunting would be allowed; motorized vehicles use would be limited to 8 miles of existing roads

and trails and 35 to 40 miles of new roads. There would be approximately 45 hunter-days spent in the WSA annually, mostly for antelope and sage grouse.

Recreation management would not change. No recreation-related developments are planned. Rockhounding would continue to occur.

Grazing Management

The grazing management practices (Red Desert and Continental Peak grazing allotments) would not change from those currently in place. Within the Honeycomb Buttes WSA, the estimated carrying capacity is 1,919 AUMs for cattle and 2,988 AUMs for sheep, with use occurring from May 1 to November 30. There are nine reservoirs within the WSA. Some of these are functional and operative while others are in disrepair. The reservoirs needing repair would not be reconstructed, except for the reservoir along Red Creek. The use of motorized vehicles in connection with range management activities would be allowed. It would generally involve one to two trips annually to inspect range improvements.

Wildlife Management

One guzzler would be installed along the North Fork of Bear Creek and one in the badlands along the west edge of the WSA. These guzzlers would be primarily to benefit sage grouse and antelope. There would be pothole development in a wet bog in the northern part of the WSA for watering wildlife and livestock. This would be undertaken at the locations of the washed out reservoirs.

Oil and gas leases would be conditioned with stipulations to protect raptors, big game winter range (elk and deer), and the large seeded bladderpod. There would be restrictions on surface disturbance within 660 feet of live water to protect two natural springs near the center of the WSA. Oil and gas operators would be required to reclaim disturbed areas no longer needed for oil and gas exploration and production. However, no actions would be undertaken to compensate for habitat lost as a result of oil and gas activities.

Affected Environment

The dominant use of the Honeycomb Buttes is livestock grazing. Other major uses are big game hunting, fossil hunting, and rock hunting.

The Honeycomb Buttes are one of the best examples of badland topography in Wyoming.

SITE-SPECIFIC ANALYSES - HONEYCOMB BUTTES

The WSA contains several different terrain types, ranging from sagebrush hills and greasewood flats surrounding the badlands, to the eroding buttes themselves with their many bluffs, small draws, and side canyons. Public comments generally support preservation of the area as wilderness. The quality of spring water on the western boundary of the WSA is adequate for human consumption at its source; no impacts are anticipated to this source of drinking water.

No threatened or endangered animal or plant species have been identified in the area. One plant species, the large seeded bladderpod (*Lesquerella macrocarpa*), is considered a sensitive species. It is located in the WSA on bentonitic clays. It is a member of the mustard family and has a biennial growth cycle. The mitigation measures that are required under any alternative would prevent any adverse impacts to this species.

No ACECs are associated with the Honeycomb Buttes WSA.

Mineral Resources

Hydrocarbons are the most valuable potential mineral resources of the Honeycomb Buttes WSA. Both source rocks and potential reservoir rocks are found within the WSA. The most probable recoverable reserves estimated to exist in the 42,044-acre WSA are 64.2 billion cubic feet (BCF) of natural gas.

The Buccaneer Unit #1 well (sec. 23, T. 26 N., R. 102 W.) was used to determine the most probable reserves. Although it has never been produced, due in part to the lack of a pipeline in the area, extensive well testing shows very favorable reserves. While it is likely that development would take place, it is not likely to occur in the near future even if the area is opened to oil and gas leasing. The two wells drilled in excess of 17,000 feet, just southwest of the WSA, tested good potentials in the deeper Cretaceous Formations and only the well in section 8 was plugged as uneconomic.

The maximum recoverable reserves estimate was calculated from figures in the "Wyoming Geological Association Guidebook, Greater Green River Basin Symposium." In that study, it was estimated that there is 3.32 BCF of natural gas per 640 acres explored in the Green River Basin (15,046 square miles). This would amount to a total recoverable reserves estimate of about 50,000 BCF of gas in the Green River Basin.

About one-third of Honeycomb Buttes WSA is included within a U.S.G.S. coal classification order and within a coal lands withdrawal by Executive Order (November 15, 1910). This WSA is not within a Known Recoverable Coal Resource Area.

The Honeycomb Buttes WSA has low potential for the economic development of the coal resource. There is a potential for the occurrence of a coal-bearing sequence at depths in excess of 2,300 to 5,000 feet. No coal beds outcrop within the WSA.

Some oil shale occurs in the Wilkins Peak Member of the Green River Formation in the WSA, but the beds are thin and low grade. The oil shale resource has a low development potential in the Honeycomb Buttes WSA.

North of the WSA on the southeast edge of the Prospect Mountains, uranium mineralization occurs in sandstone and conglomerate which are probably in the Wasatch Formation. In the WSA, the formations of major interest appear to be Tertiary in age. A large portion of the WSA has been staked for uranium and most of these claims are pre-FLPMA mining claims. However, there is no uranium development in the area and the WSA has a low development potential.

Several placer gold claims occur in the WSA, particularly in the northern portion that would be excluded from wilderness designation under the Proposed Action. The claims appear to have been staked on conglomerate deposits occurring in the Wasatch Formation. A field check of these claims in August of 1981 did not show any recent activity and no gold production has been reported from these claims. The Wasatch sediments may extend into the western portion of the Honeycomb Buttes, but the potential for placer gold is not known at this time. Gold has an unknown development potential for the WSA.

Sediment deposits of Quaternary age sand and gravel outcrop in the Honeycomb Buttes WSA. These deposits could be used as a source of gravel. There is no nearby development and no demand for this resource. The resource has a low development potential. However, these deposits could be used as a gravel source if oil and gas development increases significantly in the vicinity. The resource would then have a higher development potential.

Wildlife

The WSA provides excellent wildlife habitat. In this section, only those major species which commonly occur in the WSA will be discussed. Valuable big game habitat is found within the WSA. The primary big game species in the WSA is antelope. Several hundred occupy the WSA during the spring, summer, and fall. Mule deer use the northern portions of the WSA for yearlong range, moving to the northwestern sections during severe winter weather. Approximately 20 mule deer occupy the WSA near the two springs. Elk

SITE-SPECIFIC ANALYSES - HONEYCOMB BUTTES

generally use the northwestern portions of the WSA during the summer and migrate to the south-central sections in winter.

The Honeycomb Buttes WSA (42,044 acres) constitutes 2.1 percent of the 1,999,076-acre Steamboat elk hunt area; 4.0 percent of the 1,059,288-acre Table Rock mule deer hunt area; and 3.9 percent of the 1,070,560-acre Table Rock pronghorn antelope hunt area.

The WSA provides excellent habitat for sage grouse. Raptor habitat in the WSA is excellent, due to the availability of suitable nesting sites. Although aerial observations have been conducted in the WSA, intensive inventories are lacking. Golden eagles, prairie falcons, great horned owls, and ferruginous hawks have been observed within the WSA.

Predator species including mountain lions, swift foxes, and coyotes have been identified as using the Honeycomb Buttes WSA. Mountain lion habitat is limited to the extreme west portion of the WSA. Bobcats and coyotes use the entire WSA and are relatively common. Mountain lions are not common in the WSA. A swift fox was sighted on the WSA's southeastern boundary on September 22, 1975.

Wilderness Values

The BLM inventoried the Honeycomb Buttes area and all contiguous lands for wilderness characteristics as outlined in the BLM Wilderness Inventory Handbook (BLM 1978d). On the basis of the intensive inventory, the Bureau determined that the Honeycomb Buttes area met the criteria established in Section 2(c) of the Wilderness Act of 1964. The findings of the wilderness inventory for each of the four mandatory wilderness characteristics may be summarized as follows:

Size

This WSA contains 41,404 acres of public land (including 640 acres of split estate, federal surface and State minerals), 640 acres of State land and minerals, and 40 acres of private land. The partial wilderness area considered for the WSA (37,927 acres) includes 37,287 acres of public land (including 640 acres of split estate) and 640 acres of State land.

Naturalness

The existing WSA contains some minor intrusions in the form of two-track trails, but is essentially natural in character. Much of the area is

highly erodible and surface impacts fade relatively quickly.

Outstanding Opportunities

The many cliffs, ridges, draws, and secluded grottos provide numerous areas where solitude can be experienced. The superb coloration of the buttes enhances one's appreciation for the undisturbed natural setting of the Honeycombs.

The WSA provides opportunities for various kinds of primitive and unconfined recreation (100 visitor-days annually). These opportunities include: rockhounding, nontechnical climbing on the clay and rocky buttes, caving in the many erosion caves found in the buttes, and photography.

Supplemental Values

There is a wide variety of wildlife species in the WSA. The agates, jade, and petrified wood found in the WSA provide outstanding rockhounding values. Caving in the many erosion caves found in the buttes is an unusual experience.

Recreation Opportunities

Estimates of use for the hunt areas which encompass the Honeycomb Buttes WSA (42,044 acres) include 229 hunter-days in the 1,999,076-acre Steamboat elk hunt area; 88 hunter-days in the 1,059,288-acre Table Rock mule deer hunt area; and 1,057 hunter-days in the 1,070,560-acre Table Rock pronghorn antelope hunt area.

There are approximately 40 hunter-days spent in the WSA annually, almost entirely for sage grouse and antelope. There is some deer hunting in the far western portion of the WSA.

Visibility from the butte tops and Continental Peak is outstanding, offering miles of scenic vistas from the Wind River Mountain Range on the north to the Uinta Mountain Range to the southwest. The area ranges from sagebrush hills and greasewood flats to the eroding buttes themselves with their many bluffs, small draws, and side canyons. The area contains bright and varied colors due to the green, red, gray, white, yellow, and other colored layers of the Cathedral Bluffs Tongue of the Wasatch Formation.

Environmental Consequences

The likelihood for some oil and gas activity to occur in the WSA is relatively high. This assump-

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tion is based on the results of testing the Bucca-ner Unit #1 well (sec. 23, T. 26 N., R. 102 W.). Although it has never been produced, due in part to the lack of a pipeline in the area, extensive well testing shows very favorable reserves. A success ratio was not estimated because the fact that the testing results were positive was offset by two other factors: (1) no oil or gas wells exist within the WSA, and (2) ten dry holes have been drilled within a 6-mile radius of the WSA.

Impacts of the Proposed Action (Partial Wilderness)

The Proposed Action (Partial Wilderness) would be that 37,927 acres of the 42,044-acre Honeycomb Buttes WSA be recommended as suitable for wilderness designation. The remaining 4,117 acres of the WSA would not be recommended for designation. This would result in a potential for 6 wells to be drilled in the area not recommended for designation, resulting in approximately 42 acres of surface disturbance. Approximately 3 miles of new roads would be constructed to reach new oil and gas well sites in the area not recommended for designation. Motorized vehicle use would be prohibited in the area recommended for designation as wilderness, and would be limited to 4.5 miles of existing roads and trails and 3 miles of new roads in the area not recommended for designation.

Impacts to Oil and Gas Exploration and Production

Area Recommended for Designation. If part of the WSA were designated wilderness, the most probable recoverable reserves that would be foregone are 56.5 billion cubic feet (BCF) of natural gas. The opportunity to explore for oil and gas would be foregone on the acres recommended for designation.

Area Not Recommended for Designation. An estimated 7.7 BCF of gas would be recovered from the area not recommended for designation.

Conclusion. If part of the WSA were designated wilderness, an estimated 56.5 BCF of gas would be foregone from the WSA. This constitutes 0.11 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas). An estimated 7.7 BCF of gas would be recovered from the area not recommended for wilderness designation. This constitutes 0.02 percent of the estimated reserves in the Green River Basin.

Impacts to Wildlife Habitat and Populations

Area Recommended for Designation. There would be little or no disturbance of big game habitat or raptor nesting sites in the area recommended for designation (37,927 acres) because there would be no oil and gas exploration and production and motorized vehicles would be prohibited. There would probably be no change in the number of predators in the area.

Area Not Recommended for Designation. Disturbance to wildlife habitat could take place in the area not recommended for designation (4,117 acres). The 6 wells and 42 acres of surface disturbance (including 3 miles of new roads) would cause some displacement of big game. The construction of roads to access oil and gas drilling locations in the area not recommended for designation would also increase motorized vehicle traffic associated with recreation. This would result in addition displacement of big game.

Antelope utilize the WSA and are least affected by surface-disturbing activities of any of the big game species in the WSA. For these reasons and because the area not recommended for designation is very small (4,117 acres), the effects of displacement on antelope would be minimal and would have no effect on antelope numbers.

Mule deer use the northern portions of the area yearlong and move to the northwestern portions of the WSA in severe winters. Mule deer are more sensitive to disturbance than antelope and may move $\frac{1}{2}$ to 1 mile away from a construction or drilling activity. The area not recommended for designation is in the yearlong range for mule deer. The area recommended is where the animals move in severe winters. Road construction and drilling activities for the 6 wells in this area would not take place concurrently. They would be likely to take place over a 3- to 5-year period. This factor would reduce the effective habitat loss for deer. Since the area recommended would provide habitat for the species during the crucial winter period, and since the area not recommended for designation is relatively small (4,117 acres), mule deer numbers are not expected to be affected.

Elk use the northwestern portions of the WSA during the summer and move to the south-central portions of the WSA during the winter. They are generally displaced a greater distance from construction, drilling, or other human activities than other big game species. However, while they are present in the WSA, their use is concentrated south of the road that separates the area recommended for designation (Partial Wilderness) from the area not recommended for designation.

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Conclusion. Under the Proposed Action (Partial Wilderness - 37,927 acres), there would be no effect on big game numbers. Only 42 acres of habitat would be directly lost due to surface disturbance from oil and gas activities. Three miles of new roads would be constructed in the area not recommended for designation. Big game species would not be affected by surface disturbance in the area not recommended for designation during a crucial period. Big game animals would be displaced into nearby areas, including the area recommended for designation, which would be capable of supporting the displaced population.

Impacts to Wilderness Values

The use of motorized vehicles in connection with range management activities would be occasional and would not affect wilderness values except during the short period of time when the activities are taking place (probably no more than a day or two). These activities would probably not be necessary every year. The occasional use would not result in existing trails becoming more visible. The requirement for approval of the use of motorized vehicles would help maintain wilderness values in the area recommended for designation.

Area Recommended for Designation. Wilderness values, including solitude and naturalness, would be protected in the 37,927-acre area recommended for designation as wilderness. Beneficial impacts to solitude and naturalness are expected to occur because of the lack of human activity and surface disturbance. No activities associated with oil and gas exploration and production would be allowed and motorized vehicles would be not be allowed, except in connection with range management activities. This vehicle use would probably occur on no more than 1 to 2 days in any one year.

Area Not Recommended for Designation. There may be a small increase in motorized vehicle use (approximately 10 percent) in the area not recommended for designation because of the increased access created by approximately 3 miles of new roads associated with oil and gas development. No increase in vehicle use associated with range management activities is anticipated.

When construction and drilling activity associated with oil and gas development takes place (probably several years away), wilderness values would be lost in the area not recommended for designation as wilderness (4,117 acres). When construction and drilling activity stops and production begins, some wilderness values (especially solitude) would return, except for the increased motorized vehicle traffic related to recreation on the new roads constructed for oil and

gas operations. Naturalness would take considerably longer to return and may be considered to be lost for the foreseeable future. This increased use is expected to have only a minor effect on solitude.

Conclusion. Under the Proposed Action (Partial Wilderness), wilderness values would be preserved in the 37,927-acre area recommended for designation. During oil and gas exploration and development activities, solitude and naturalness would be lost in the 4,117-acre area not recommended for designation. Following these activities, solitude would return except when motorized vehicles use the roads. Naturalness would be lost for the foreseeable future in this 4,117-acre area.

Impacts to Recreation Opportunities

Area Recommended for Designation. Hunter use would remain at current levels (40 hunter-days annually). Since most hunter use is for antelope and sage grouse, discontinued motor vehicle use in the area recommended for designation is not expected to eliminate hunting in the WSA. Therefore, no opportunities would be lost.

In the short term, the elimination of motor vehicle use and less manmade disturbance in the WSA would improve hunting quality. However, wilderness designation of the Honeycomb Buttes WSA would not cause the herd unit populations (which occupy an area much larger than the WSA) to increase. Hunter-days would remain at approximately the same levels.

Most of the visitor use of the WSA, not associated with hunting, is associated with activities that would not be adversely affected by development activities in the area not recommended for designation. Rockhounding, climbing, and caving are examples of these activities (100 visitor-days annually). In addition, development activities are not expected to adversely affect off-road vehicle (ORV) use in the area (100 visitor-days annually).

Area Not Recommended for Designation. Approximately 3 miles of new roads constructed to reach oil and gas well sites would increase access to part of the WSA (4,117 acres). This would not increase opportunities, or hunter use, because of the prohibition against motorized vehicles in the much larger portion of the WSA recommended for designation. The overall effect would be very little change in recreation opportunities.

Conclusion. Under the Proposed Action (Partial Wilderness - 37,927 acres), there would be no effect on recreation opportunities either in the WSA itself or in the region because current uses of the WSA would change very little. Hunter use

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would remain at current levels (40 hunter-days annually).

Impacts of the Alternative (All Wilderness)

The All Wilderness Alternative would be that all 42,044 acres of the Honeycomb Buttes WSA be recommended as suitable for wilderness designation. There would be no oil and gas leases issued in the WSA. Therefore, there would be no surface-disturbing activities associated with developing the oil and gas resources. Motorized vehicles would be prohibited in the entire WSA.

Impacts to Oil and Gas Exploration and Production

No development of oil and gas resources would take place in the WSA. The most probable recoverable reserves that would be lost if the WSA were designated wilderness are 64.2 BCF of natural gas. The opportunity to explore for oil and gas resources would be foregone.

Conclusion. If the WSA were designated wilderness, there would be no production of oil and gas from the WSA. An estimated 64.2 BCF of gas would be foregone. This constitutes 0.13 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

There would be no surface disturbance or human activity associated with the development of oil and gas resources in the WSA. Motorized vehicles (including over-snow vehicles) would be prohibited. Other recreation uses of the WSA are not expected to change. These factors would minimize adverse impacts to wildlife (including big game). No adverse impacts to either habitat or populations are expected.

Conclusion. If the WSA were designated wilderness, wildlife habitat would be preserved and populations would remain about the same because there would be no change in the uses of the WSA.

Impacts to Wilderness Values

Surface-disturbing activities due to oil and gas exploration and development would not take place. The use of motorized vehicles (including over-snow vehicles) would be prohibited. Other recreation activities and use levels in the WSA would not change. These factors would help preserve wilderness values in the entire WSA.

The potential limited vehicle use in connection with range management activities would not result in existing trails becoming more visible.

Conclusion. If the WSA were designated wilderness, wilderness values would be retained in the entire WSA because no surface-disturbing activities would occur and motorized vehicles would be eliminated.

Impacts to Recreation Opportunities

About 70 to 90 percent of the recreation use is primarily in connection with nonhunting activities. Many of these users enjoy wilderness values as an added attraction rather than a primary inducement to visit the area. Therefore, wilderness designation would neither increase nor decrease these opportunities. There would be a minor reduction in the quality of the recreation experience for some recreation users. This reduction would occur in the northern portion of the WSA where surface-disturbing activities would occur. Currently, wilderness values are of little or no importance to recreation users in this part of the WSA because it is the part of the WSA that contains the greatest amount of intrusions.

Hunting would remain about the same (40 hunter-days annually).

Conclusion. If the WSA were designated wilderness, there would be no effect on recreation opportunities because most of the current use is related to the enjoyment of wilderness values. The use of the WSA for hunting would remain about the same.

Impacts of the Alternative (No Wilderness)

The No Wilderness Alternative would be that no acreage in the 42,044-acre Honeycomb Buttes WSA be recommended as suitable for wilderness designation. Under the No Wilderness alternative, the entire WSA (42,044 acres) would be opened to oil and gas leasing. There would be a potential for 66 wells to be drilled, resulting in 462 acres of surface disturbance. Motorized vehicles would be limited to 8 miles of existing roads and trails and 35 to 40 miles of new roads.

Impacts to Oil and Gas Exploration and Production

The most probable recoverable reserves that could be produced from the WSA is 64.2 BCF of natural gas. However, because the reserves are expected to be found in deeper formations, it is

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not likely they would be recovered in the foreseeable future. As market conditions change and the price of natural gas increases, drilling in the vicinity of the WSA would be likely to increase.

Conclusion. If the WSA were not designated wilderness, approximately 64.2 BCF of gas would be recovered from the WSA. This constitutes 0.13 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

Construction and drilling activity associated with the development of oil and gas resources in the WSA has a potential for drilling 66 wells and construction of 35 to 40 miles of new roads over a 10- to 20-year period. Wildlife would be displaced from the areas disturbed. As construction and drilling are completed, displacement would be reduced. It is expected that when drilling in the area does commence, it would take 10 to 20 years to develop the resources in the WSA. This factor would help mitigate adverse impacts to big game by minimizing the number of wells drilling or roads under construction at any one time. This would help to minimize the level of human activity and would mitigate the displacement of big game.

Motorized vehicles are currently restricted to existing roads. However, because of the increased access created by new oil and gas roads, increased motorized vehicle traffic, not associated with oil and gas exploration and development, would result in increased displacement of big game.

The net result of oil and gas activities and increased access to the area would be to displace most of the big game in the WSA. However, the WSA accounts for 4 percent or less of the hunt area for each any species of big game. The greatest effect would be to mule deer where the WSA constitutes 4 percent of the hunt area. The WSA constitutes 3.9 percent of the hunt area for antelope, but they are less affected by oil and gas activities than are mule deer. Oil and gas activity in the WSA would not be expected to result in an increase in activity in the region. Overall disturbance within the hunt area would be about the same, with or without development in the WSA. Therefore, no effect on big game numbers is expected.

Predator numbers are not expected to be affected by no wilderness management. The WSA is only a small portion of their wide-ranging domain, and the management of the WSA would have minimal effect on their numbers.

Conclusion. If the WSA were not designated wilderness, there would some disturbance to big

game habitat and some displacement of big game to nearby areas. However, no effect on big game numbers is expected, because total disturbance in the hunt areas is expected to remain about the same.

Impacts to Wilderness Values

The area's solitude and naturalness would not be protected where noise and visual intrusions such as pipelines, roads, etc., are allowed. However, because the reserves are expected to be found in deeper formations, wilderness values would not be affected in the short term. The unique geological formations would continue to provide refuge, primitive and unconfined recreation opportunities, and opportunities for solitude. The large area of the WSA makes it easy to "hide" manmade intrusions. Site-specific mitigation requirements would be applied to prevent drilling on butte tops.

Naturalness and solitude under no wilderness management would generally decrease within the WSA. However, due to the low oil and gas potential within the Honeycombs, activities that could have significant impacts to naturalness and solitude are not expected to occur for several years. Human activities would be allowed under no wilderness management which could jeopardize solitude and naturalness of the WSA in the long term. Hiking, horseback riding, rockhounding, and photography in the WSA would remain at the same low levels.

The use of motorized vehicles in connection with range management activities would be occasional and would not affect wilderness values except during the short period of time when the activities are taking place (probably no more than a day or two). These activities would probably not be necessary every year. The occasional traffic would not result in existing trails becoming more visible.

Oil and gas exploration and development activities would increase access to the WSA and would result in increased motorized vehicle traffic on oil and gas access roads. The roads themselves would result in a loss in naturalness and the increased access and drilling activity would result in a loss in solitude.

Conclusion. If the WSA were not designated wilderness, wilderness values would remain in the short term because oil and gas exploration and development would not occur for several years. In the long term, wilderness values would be lost as oil and gas explorations and development begins and access to the WSA is improved.

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Impacts to Recreation Opportunities

Motor vehicle use would be limited to 8 miles of existing roads and trails and the 35 to 40 miles of new roads. This restriction would not adversely affect recreation opportunities because there is currently very little use off existing roads and trails. Increased access created by roads constructed to reach oil and gas drilling locations, would enhance recreation opportunities for individuals who use motorized vehicles in connection with recreation, especially those related to hunting.

Hunting opportunities would increase by about 20 percent in the short term because few oil and gas wells are expected to be drilled in the next several years. One or two exploration wells would increase access for hunters but would not be likely to displace big game animals from the WSA. As additional wells are drilled and production begins, displacement of big game would decrease hunter success slightly, to the point where the decreased success would offset the increased access and reduce the level of hunter use in the WSA.

In the short term, any increase or decrease in hunting quality would depend on fluctuations in herd unit populations which occupy an area much larger than the WSA and would depend more on weather than on any other factor. Pronghorn antelope constitute the major big game species in the WSA. Disturbance caused by oil and gas operations would have little effect on antelope because they are only slightly affected by development activities. There would be about 45 hunter-days spent in the WSA annually, mostly for antelope and sage grouse.

The quality of the recreation experience for 50 to 75 percent of the 100 recreation visitor-days annually would be reduced as a result of a loss in naturalness and solitude in the area. While many of the recreation visitor days spent in the WSA are spent on nonwilderness recreation, wilderness values contribute to the quality of the other recreation experiences.

Conclusion. If the WSA were not designated wilderness, hunter use of the WSA would increase by about 20 percent to about 45 hunter days annually in the short term due to the increased access created by oil and gas exploration. As more oil and gas wells are drilled and production begins hunter success would decrease slightly and hunter use would decrease to about current levels. The number of visitor-days spent in the WSA would not be expected to change. However, the quality of the recreation experience for non-hunting recreation would be reduced for up to 75 percent of the 100 visitor-days spent in the WSA annually.

OREGON BUTTES WSA

Summary Description and Background

The Oregon Buttes WSA is in north-central Sweetwater County, approximately 30 miles northeast of Farson (Map OB-1). The WSA contains 5,700 acres comprised entirely of public land. Included in the Oregon Buttes WSA are 3,360 acres of the Oregon Buttes Cultural ACEC (3,520 acres). The remainder of the Oregon Buttes Cultural ACEC (160 acres) is included in the Whitehorse Creek WSA.

Proposed Action and Alternatives

The two alternatives analyzed were: 1) that all 5,700 acres Oregon Buttes WSA be recommended as suitable for wilderness designation and 2) that no acreage in the 5,700-acre Oregon Buttes WSA be recommended as suitable for wilderness designation.

Proposed Action (All Wilderness)

The Proposed Action would be that all 5,700 acres in the Oregon Buttes WSA be recommended as suitable for wilderness designation. There would be no oil and gas leases issued in the WSA. Therefore, there would be no surface disturbance associated with oil and gas development. Motorized vehicles would be prohibited in the WSA.

Oil and Gas Management

Oil and gas leasing in the WSA would not resume. There are no pre-FLPMA oil and gas leases in the Oregon Buttes WSA. Therefore, management of the area would not be constrained by this type of valid existing right. No exploration or development would occur.







Solid Minerals Management

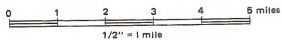
No mineral activity related to leasables, salables, or locatables would be allowed.

Off-Road Vehicle Management

Motorized vehicles would be prohibited in the WSA.



-  Wilderness Study Area Boundary
-  Oregon Buttes Cultural ACEC
-  Public Land (Administered by BLM)
-  Private Land
-  State Land
-  Federal Minerals



Map OB-1
Oregon Buttes WSA
LAND AND MINERAL STATUS

SITE-SPECIFIC ANALYSES - OREGON BUTTES

Recreation Management

Hunting would be allowed but motorized vehicles would not be allowed in the WSA. There would be approximately 50 hunter-days annually for antelope, 15 to 20 hunter-days annually for sage grouse, and 225 to 250 hunter-days annually for deer and elk.

The major use of the WSA would continue to be day use (i.e., people visit the WSA during the day, driving elsewhere to spend the night). Approximately 225 to 250 visitor-days would be spent in the WSA annually for nondeveloped recreation (including hiking, photography, and camping).

Grazing Management

Grazing management practices (Bush Rim grazing allotment) would not change from those currently in place. Within the Oregon Buttes WSA, the estimated carrying capacity is 383 AUMs for cattle and 380 AUMs for sheep, with use occurring from May 1 to December 15. Four permittees use the allotment for trailing sheep during the spring and fall. There are seven reservoirs in the WSA. Some of these are functional and operative some are in disrepair. No additional range improvements are planned. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA.

Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 5,700-acre Oregon Buttes WSA be recommended as suitable for wilderness designation. There would be a potential for 9 wells to be drilled in the WSA, resulting in 63 acres of surface disturbance. Approximately 4 to 5 miles of new roads would be constructed to reach oil and gas well sites. Motorized vehicles would be limited to existing roads and trails and the new roads constructed for oil and gas exploration and production.

Oil and Gas Management

Oil and gas leasing in the WSA (5,700 acres) would resume. New oil and gas leases would be conditioned with stipulations to restrict construction on steep slopes, protect raptors, protect crucial elk winter range, restrict construction within 500 feet of ephemeral streams and 600 feet of live water, and preserve the scenic, historic, and cultural character of the area.

There would be a potential for 9 wells to be drilled from surface locations within the WSA, resulting in 63 acres of surface disturbance. Approximately 4 to 5 miles of new roads would be constructed to reach oil and gas well sites.

Solid Minerals Management

No activity related to locatable or leasable minerals is anticipated. Although coal, oil shale, and uranium may be present, their development potential is low. There are better sources of these minerals nearby. If any activity is proposed, it would be subject to stipulations to protect the values of the Oregon Buttes Cultural ACEC, including wildlife and historic and cultural values.

Off-Road Vehicle Management

Motorized vehicles would be limited to existing roads and trails and the 3 to 4 miles of new roads constructed to reach oil and gas well sites. The entire area would be closed to motorized vehicles during the elk calving season (between March 1 and July 1). This would also serve to protect raptors from disturbance during a critical period.

Recreation Management

Hunting would be allowed but the use of motor vehicles would be limited to existing roads and trails. Hunting in the WSA would be mostly for deer and elk (125 to 150 hunter-days annually). There would be 50 hunter-days annually for antelope. There would be additional hunting for sage grouse in the northern part of the WSA (15 to 20 hunter-days annually).

No developments associated with recreation are anticipated. The existing recreation uses in the WSA would remain the same. The major use of the WSA would continue to be day use (i.e., people visit the WSA during the day, driving elsewhere to spend the night). Approximately 150 to 175 visitor-days would be spent in the WSA annually for nondeveloped recreation (including hiking, photography, and camping).

SITE-SPECIFIC ANALYSES - OREGON BUTTES

Grazing Management

Grazing management practices (Bush Rim grazing allotment) would not change from those currently in place. Within the Oregon Buttes WSA, the estimated carrying capacity is 383 AUMs for cattle and 380 AUMs for sheep, with use occurring from May 1 to December 15. Four permittees use the allotment for trailing sheep during the spring and fall. There are seven reservoirs in the WSA. Some of these are functional and operative; some are in disrepair. No reconstruction is anticipated on the reservoirs that are in disrepair because the allotment is in improving condition. No additional range improvements are planned. The use of motorized vehicles in connection with range management activities would be allowed. Generally, this activity would be limited to on trip with a pickup truck or similar vehicle for annual inspection of range improvements. Maintenance would continue on existing functional range improvements.

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA.

Oil and gas operators would be required to reclaim unused areas disturbed as a result of oil and gas activities. However, no actions would be taken to compensate for habitat lost as a result of oil and gas exploration and production. The Oregon Buttes Cultural ACEC (3,360 acres in the WSA) would be closed to motorized vehicles from March 1 through July 1 to protect elk calving habitat and raptors.

Affected Environment

The buttes are a prominent landmark, rising out of the northwestern portion of the Red Desert to an elevation of 8,612 feet above sea level and 1,200 feet above the desert floor. Visibility from the butte tops is outstanding, offering scenic vistas including the Wind River Mountains on the north to the Uinta Mountain Range on the southwest. The buttes possess a wide variety of vegetation types, most notably limber pine stands. Small, thick, isolated stands of aspen are also present. Numerous seeps display wet meadows. The WSA contains valuable big game habitat (elk, mule deer, and pronghorn antelope), and is also an important elk calving ground.

The dominant use of the WSA is for recreation. The area is used for big game hunting, rock hunting, and observing raptors and other wildlife. Camping occurs in the aspen on the west side of the buttes.

The Oregon Buttes Cultural ACEC (3,520 acres) will continue to be managed in accordance with the ACEC management plan (3,360 acres of the ACEC are within the Oregon Buttes WSA). The remainder of the Oregon Buttes ACEC is in the Whitehorse Creek WSA. The ACEC will be managed primarily to protect historic and wildlife values. The management associated with the ACEC is described under the alternatives.

Mineral Resources

Hydrocarbons are the most valuable potential mineral resources of the WSA. Both source rocks and potential reservoir rocks are found in the WSA. The area has moderate to high oil and gas development potential. The most probable recoverable reserves estimated to exist within the 5,700-acre WSA are 8.8 billion cubic feet (BCF) of natural gas.

The Buccaneer Unit #1 well in sec. 23, T. 26 N., R. 102 W. (approximately 3 miles southwest of the WSA), was used to determine the most probable reserves. Although it has never been produced, due the lack of a pipeline in the area, extensive well testing shows very favorable reserves. Deeper formations, tested only by one well in sec. 8, T. 26 N., R. 101 W., also show good potential for production. This potential may not be realized in the near future due to excessive drilling depths, the lack of a pipeline in the area, and the risks involved in drilling stratigraphic reservoirs. There are 2 depleted producers in sec. 24, T. 27 N., R. 101 W. If oil and gas are produced from the WSA, it would most likely be from the deeper formations.

The maximum recoverable reserves estimate was calculated from figures in the Wyoming Geological Association Guidebook, Greater Green River Basin Symposium (WGA 1973). In that study, it was estimated that there is 3.32 BCF (billion cubic feet) of recoverable gas per 640 acres explored in the Green River Basin (15,046 square miles). This amounts to a total recoverable reserves in the Green River Basin of about 50,000 BCF of gas.

There are no oil or gas well within the WSA and 7 dry holes have been drilled within a 6-mile radius of the WSA. The two wells drilled in excess of 17,000 feet, just southwest of the WSA, tested good potentials in the deeper Cretaceous Formations and only the well in section 8 was plugged as uneconomic.

All of the WSA is within a U.S.G.S. coal classification order and within a coal lands withdrawal by Executive Order (November 15, 1910). The Oregon Buttes WSA has low potential for the economic development of the coal resource. There

SITE-SPECIFIC ANALYSES - OREGON BUTTES

is a potential for the occurrence of a coal-bearing sequence at depths in excess of 2,300 to 5,00 feet. No coal beds outcrop within the WSA.

Some oil shale occurs in the Wilkins Peak and Laney Shale members of the Green River Formation in the WSA, but the beds are thin and low grade. The oil shale resource has low development potential in the Oregon Buttes WSA.

North of the WSA on the southeast edge of the Prospect Mountains, uranium mineralization occurs in sandstone and conglomerate that are probably in the Wasatch Formation. In the WSA the formations of major interest appear to be Tertiary in age. A large portion of the WSA has been claim staked for uranium. However, no development has occurred and none is foreseen.

Sediment deposits of Quaternary age sand and gravel outcrop in the vicinity of Oregon Buttes. There is no nearby development and subsequently no demand for these resources which have a low development potential. The deposits could be used as a gravel source if development increases in the vicinity of these deposits. The resource would then have a higher development potential.

Wildlife

Big game habitat in the WSA is extremely important. Pronghorn antelope use the WSA during the summer. Mule deer use the WSA during the summer and linger until the late fall, when bad weather may force them to migrate south. The area is an important elk calving ground (Map OB-2) and is one of the few remaining calving areas used by the Sands elk herd. These elk use the area summer long, and remain in the western portion of the WSA during the winter. The western portion of the WSA is crucial elk winter range.

The Oregon Buttes WSA (5,700 acres) constitutes 0.3 percent of the 1,999,076-acre Steamboat elk hunt area; 0.4 percent of the 1,295,248-acre Steamboat mule deer hunt area; and 0.7 percent of the 858,181-acre Eden pronghorn antelope hunt area.

Raptor habitat in the WSA is excellent (Map OB-3), due to the availability of suitable nesting sites. Intensive inventories revealed six prairie falcon aeries, and one red-tailed hawk nest. Evidence of great horned owls has been found in the area, although nest locations have not been identified. Historically, peregrine falcons nested on the buttes, but they have not done so since 1965.

Mountain lions and bobcats use the entire WSA; however, they are not considered common. Coyotes are common throughout the WSA.

Wilderness Values

The BLM inventoried the Oregon Buttes area and all contiguous lands for wilderness characteristics as outlined in the BLM Wilderness Inventory Handbook (BLM 1978d). On the basis of the intensive inventory, the Bureau determined that the Oregon Buttes WSA met the criteria established in Section 2(c) of the Wilderness Act of 1964. The findings of the wilderness inventory for each of the four mandatory wilderness characteristics may be summarized as follows:

Size

This WSA contains 5,700 acres and is entirely public land.

Naturalness

The Oregon Buttes WSA appears to be in an essentially natural condition. Closer inspection reveals 2 seismograph trails and 13 two-track trails, which cumulatively reduce the naturalness of this WSA. However, all of these intrusions become obscure; some end as haphazard tire tracks across the hills and dry claylike soil, others end abruptly at the top of a bench or saddle ridge, and others are overgrown with sagebrush and grass.

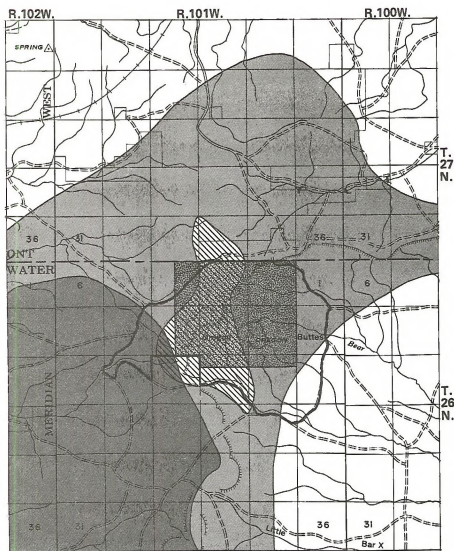
Outstanding Opportunities

Although the WSA is relatively small (5,700 acres), opportunities for solitude are good. However, much of this is due to the undeveloped nature of the surrounding countryside. Outstanding opportunities can be found in small groups of trees scattered around the buttes.

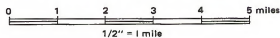
Opportunities for primitive and unconfined recreation are outstanding in the WSA. Being prime raptor habitat, the buttes provide bird watchers with a variety of species and uninterrupted observation. The WSA is also a prime area for scenic and wildlife photography, offering a unique variety of settings and subjects. Other recreation opportunities include hiking, rock climbing, rock-hounding, backpacking, hunting, horseback riding, and sightseeing.

Supplemental Values

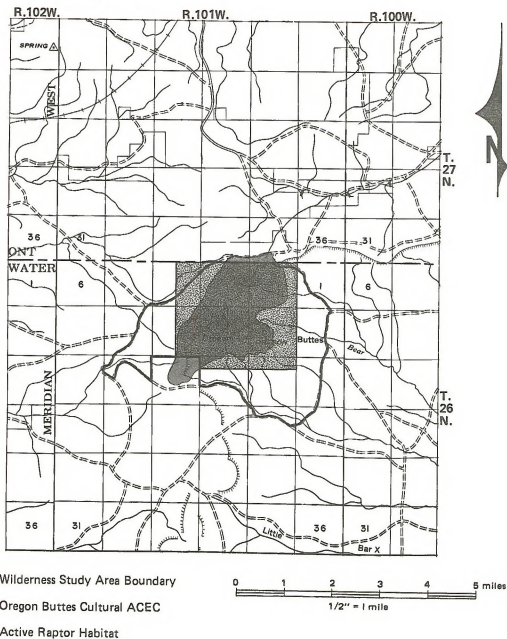
A great number of supplemental values are found in this WSA. Small pieces of petrified wood are abundant. The Oregon Buttes is a dominating landscape which is historically important. The buttes were a major landmark for travelers of the



- Wilderness Study Area Boundary
-  Oregon Buttes Cultural ACEC
-  Elk Summer Range
-  Elk Winter Range
-  Elk Calving Area



Map OB-2
Oregon Buttes WSA
ELK HABITAT



Map OB-3
Oregon Buttes WSA
RAPTOR HABITAT

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Oregon Trail, which is located less than 7 miles to the north of the WSA. Emigrants viewed the buttes as the halfway point on their journey from Independence, Missouri, to the Pacific Ocean. The Buttes also denoted the point where the emigrants passed over the Continental Divide and into the Pacific watershed. Nearly 300,000 emigrants passed this way between 1843 and 1863.

The western portion of the Oregon Buttes WSA is used as a calving area by the only desert elk herd in Wyoming. The WSA contains excellent raptor habitat and several known nest sites. There are historic peregrine falcon aeries on the west face of Oregon Buttes. Immature peregrine falcon are infrequently seen there during raptor surveys.

The area contains a variety of vegetation types, most notably limber pine stands.

The remains of Indian tipi rings can be found in the Oregon Buttes Cultural ACEC portion of the WSA.

The objectives for managing the Oregon Buttes Cultural ACEC (3,360 of which are in the 5,700-acre Oregon Buttes WSA) include the protection of the area's scenic integrity as a historic landmark.

Recreation Opportunities

The opportunities for primitive and unconfined recreation are outstanding in the Oregon Buttes WSA. It is prime raptor habitat and provides an excellent opportunity for birdwatching, with a variety of species and an opportunity for uninterrupted observation provided by the solitude that currently characterizes the WSA. The WSA also provides a good opportunity for scenic and wildlife photography. Other recreation opportunities include rock climbing, backpacking, hunting, horseback riding, and sightseeing. Approximately 200 visitor-days annually are spent in the WSA for nondeveloped recreation.

Estimates of use for the hunt areas in which the Oregon Buttes WSA (5,700 acres) is located include 229 hunter-days in the 1,999,076-acre Steamboat elk hunt area; 1,832 hunter-days in the 1,295,248-acre Steamboat mule deer hunt area; and 2,097 hunter-days in the 858,181-acre Eden pronghorn antelope hunt area. Current hunter use is approximately 200 hunter-days annually for deer and elk, 50 hunter-days annually for antelope, and 15 to 20 hunter-days annually for sage grouse.

Environmental Consequences

The likelihood for some oil and gas activity to occur in the area is relatively high. This assumption is based on testing of the Buccaneer Unit #1 well (sec. 23, T. 26 N., R. 102 W.). Although the well has never been produced, due to the lack of a pipeline in the area, extensive well testing showed very favorable reserves of gas. Deeper formations also show good potential for production. A success ratio has not been estimated because: (1) the results of this testing are positive, (2) no oil or gas wells exist within the WSA, and (3) seven dry holes have been drilled within a 6-mile radius of the WSA.

Impacts of the Proposed Action (All Wilderness)

The Proposed Action would be that all 5,700 acres in the Oregon Buttes WSA be recommended as suitable for wilderness designation. Oil and gas leases would not be issued. Therefore, there would be no surface disturbance associated with the development of oil and gas resources. Motorized vehicles would be prohibited in the WSA.

Impacts to Oil and Gas Exploration and Production

There would be no oil and gas production from the WSA because no oil and gas leases would be issued. The WSA is currently unleased. The opportunity to explore for oil and gas resources would be lost. The most probable recoverable reserves foregone would be 8.8 BCF of gas.

Conclusion. If the WSA were designated wilderness, there would be no oil and gas production from the WSA. Approximately 8.8 BCF of gas would be foregone. This constitutes 0.02 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

There would be no activity associated with the development of oil and gas resources, and motorized vehicles (including over-snow vehicles) would be prohibited in the WSA. These factors would minimize adverse effects on big game and

SITE-SPECIFIC ANALYSES - OREGON BUTTES

their habitat. The animals would not be displaced from the WSA. If oil and gas operations take place in the vicinity of the WSA, big game would be displaced into the WSA, at least for part of the year. However, herd unit populations (which occupy an area much larger than the WSA) are not expected to change.

It is anticipated that raptor productivity would remain the same. However, wilderness management prescriptions would be developed to protect nesting sites. These prescriptions may include requiring buffer zones around nest sites or seasonal restrictions on disturbance.

Wilderness management of the WSA would have no impact on the large predator species, because these species have low populations and very large ranges.

Conclusion. If the WSA were designated wilderness, there would be no impacts to wildlife habitat or populations because no additional surface disturbance would take place and no changes in recreation use of the WSA are expected.

Impacts to Wilderness Values

Wilderness values of unique features and naturalness would be protected in the entire WSA. There would be no surface disturbance and no motorized vehicle use (except occasional use in connection with range management activities). Naturalness and solitude would be preserved in the entire WSA. The preservation of naturalness would be an important factor in also preserving the area's outstanding opportunities and supplemental values.

Most important among the WSA's supplemental values that would be preserved would be the historic and scenic value associated with the view of the buttes seen by the emigrants on their passage west and the WSA's wildlife (especially raptors and big game).

The potential limited vehicle use in connection with range management activities would not result in existing trails becoming more visible. The requirement for approval of the use of motorized vehicles would help maintain wilderness values in the WSA.

Conclusion. If the WSA were designated wilderness, wilderness values would be preserved in the WSA. The area's historic character would be preserved for the long term.

Impacts to Recreation Opportunities

There would be an increase in the number of hunter days spent in the WSA annually for deer

and elk because the area would retain its naturalness. The exclusion of oil and gas operations from the WSA would result in big game being displaced into the WSA should oil and gas operation occur outside the WSA. This would increase hunter success and the attractiveness of the WSA to hunters. Deer and elk hunting would increase from the current level of 200 hunter-days annually to 225 to 250 hunter-days annually.

The number of hunter days spent in the WSA for antelope (50 hunter-days annually) and sage grouse (15 to 20 hunter-days annually) would remain at current levels.

It is expected that rockhounding activities would remain at about current levels. Overall recreation for nondeveloped recreation would increase from the current level of 200 visitor-days annually to 225 to 250 visitor-days annually. This increase would occur because the WSA would retain the natural character it possessed when the area was passed by emigrants headed west. Most of the increased visitation would be from residents outside of the region. The historic character of the area would be a major factor in attracting nonlocal visitors to the WSA.

Conclusion. If the WSA were designated wilderness, hunting for deer and elk and nondeveloped recreation in the WSA would increase. The total increase in visitor use of the WSA would be about 20 percent above current levels.

Impacts of the Alternative (No Wilderness - No Action)

The No Wilderness Alternative would be that no acreage in the 5,700-acre Oregon Buttes WSA be recommended as suitable for wilderness designation. There would be a potential for 9 wells to be drilled from the surface of the WSA, resulting in 63 acres of surface disturbance. Approximately 4 to 5 miles of new roads would be constructed to reach oil and gas well sites. Three wells would be drilled from outside the boundary of the WSA. Motorized vehicles would be limited to existing roads and trails.

Impacts to Oil and Gas Exploration and Production

If the WSA were not designated wilderness, there would be a potential for oil and gas exploration and production. The most probable reserves that would be recovered from the WSA is 8.8 BCF of natural gas. However, because the reserves are expected to be found in the deeper formations, it is not likely that they would be recovered in the near future. As market conditions

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change and the price of natural gas increases, drilling in the vicinity of the WSA would be likely to increase. Since the northwestern portion of the WSA does not contain the predominant steep slopes found elsewhere in the WSA, exploration would probably occur there in the northwestern portion of the WSA first.

Conclusion. If the WSA were not designated wilderness, approximately 8.8 BCF of gas would be recovered from the WSA. This represents only about 0.02 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

If the Oregon Buttes WSA were not designated wilderness, wildlife populations would remain about the same. Although the Oregon Buttes Cultural ACEC was designated in part to protect wildlife habitat, it is doubtful that the ACEC management prescriptions would afford wildlife full protection from disturbing activities. However, the closure to motorized vehicles during the elk calving season would help protect the elk.

Steep slopes predominate the eastern portion of the WSA. This would make the construction of access roads and well sites more complicated and expensive. In this WSA, drilling would most likely be into the deeper formations, also making exploration more expensive ventures. These factors make adverse impacts to deer and elk, which occupy the eastern portions of the WSA less likely. Antelope, in the eastern portion of the WSA are less sensitive to disturbance.

When oil and gas exploration and development commences, there would be some displacement of animals into adjacent areas. The closure of the area to motorized vehicles during the elk calving season would mitigate the adverse impacts to some extent. As drilling activity is completed and production starts, the displacement of animals would also be reduced.

It is anticipated that raptor productivity would be the same, due to stipulations requiring buffer zones around nest sites or seasonal restrictions on disturbance. Restrictions on construction on steep slopes would also mitigate adverse impacts to raptors. There would be no impact on large predator species, because these species have low populations and very large ranges.

Conclusion. If the WSA were not designated wilderness, there would be some displacement of animals when the level of human activity associated with the development of oil and gas resources is highest. However, in part because of the small size of the WSA (5,700 acres), such activity is not

expected to affect big game populations in the area.

Impacts to Wilderness Values

Although statutory protection would not be afforded the area, wilderness values (unique values and naturalness) would be protected within most of the Oregon Buttes Cultural ACEC because of the restrictive stipulations on oil and gas operations and because the steep slopes prevalent in the ACEC make oil and gas development difficult. The western portion of the ACEC would more likely be subject to oil and gas operations. Therefore, naturalness and solitude would not be preserved in 20 to 25 percent of the ACEC because of oil and gas operations. The ACEC is small and disrupting sights and sounds would carry easily into the elevated lands surrounding the buttes.

The area's historic character would be lost for the long term because any disturbance would irreversibly damage the view of the buttes seen by the emigrants on their passage west. This historic view is one of several reasons that restrictions on surface disturbance in the ACEC were developed. Naturalness and solitude in the rest of the area would be lost. Therefore, the opportunities for solitude and primitive recreation would be limited in the WSA.

The use of motorized vehicles in connection with range management activities would be occasional and would not affect wilderness values except during the short period of time when the activities are taking place (probably no more than a day or two). These activities would probably not be necessary every year. The occasional traffic would not result in existing trails becoming more visible.

Conclusion. If the WSA were not designated wilderness, the area's wilderness values would be lost in most of the WSA due to the disturbance created by oil and gas exploration and development.

Impacts to Recreation Opportunities

Seasonal closures to motorized vehicles would protect the values of the WSA and Oregon Buttes Cultural ACEC. Vehicle accessibility in the WSA would be limited to existing roads and trails and the 4 to 5 miles of new roads constructed to access oil and gas well sites. Hunter use is relatively high in this small WSA. Hunting in the WSA for deer and elk would decrease from 200 hunter-days annually to 125 to 150 hunter-days annually. Hunter use would remain at current levels: 50

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hunter-days annually for antelope, and 15 to 20 hunter-days annually for sage grouse.

The number of hiking visitor-days would be reduced slightly. However, the Oregon Buttes Cultural ACEC encompassing the buttes would continue to be desirable for hiking. It is expected that rockhounding activities would remain at current levels. Overall recreation use for nondeveloped recreation would decrease from the current level of 200 visitor-days annually to 150 to 175 visitor-days annually because of the reduced naturalness and solitude.

Conclusion. If the WSA were not designated wilderness, there would be reduced recreation opportunities in the WSA for hunting and general nondeveloped recreation. These are currently the major uses of the WSA. The total reduction in visitor use of the WSA would be 25 percent below current levels.

WHITEHORSE CREEK WSA

Summary Description and Background

The Whitehorse Creek WSA is in southeastern Fremont County and north-central Sweetwater County, about 30 miles northeast of Farson (Map WH-1). This 4,002-acre WSA contains a multitude of habitats and landscapes, such as small aspen and pine groves; high, sheer sandstone cliffs; and an area of badland topography. Included in the Whitehorse Creek WSA are 160 acres of the 3,520-acre Oregon Buttes Cultural Area of Critical Environmental Concern (ACEC).

Proposed Action and Alternatives

The two alternatives analyzed were: 1) that no acreage in the 4,002-acre Whitehorse Creek WSA be recommended as suitable for wilderness designation and 2) that all 4,002 acres of the Whitehorse Creek WSA be recommended as suitable for wilderness designation.

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 4,002-acre Whitehorse Creek WSA be rec-

ommended as suitable for wilderness designation. There would be a potential for 7 wells to be drilled in the WSA, resulting in 49 acres of surface disturbance. Approximately 3 to 5 miles of new roads would be constructed to reach oil and gas well sites.

Oil and Gas Management

Oil and gas leasing would resume in the WSA. Oil and gas exploration and development would be allowed. Oil and gas leases would be conditioned to restrict surface disturbance during the spring to protect watersheds and water quality. Surface disturbances would be restricted on steep slopes (greater than 20 percent). A stipulation to protect raptors would be included in leases in the southwestern portion of the WSA. There would be a seasonal restriction in elk calving habitat in the eastern portion of the Oregon Buttes Cultural ACEC (approximately 20 acres). Oil and gas operators would be required to reclaim areas disturbed but no longer needed for oil and gas activities. However, no actions would be taken to compensate to habitat lost as a result of oil and gas exploration and production.

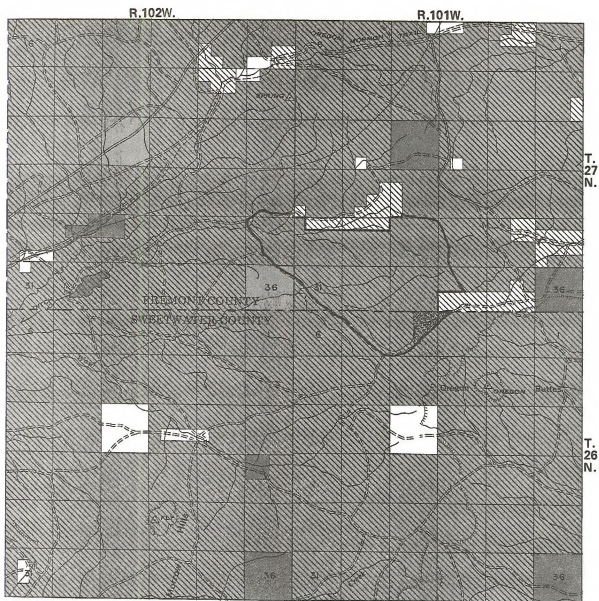
There would be a potential for 7 wells to be drilled, resulting in 49 acres of surface disturbance. Approximately 3 to 5 miles of new roads would be constructed to reach oil and gas well sites. No surface occupancy stipulations would be attached to oil and gas leases in the Oregon Buttes Cultural ACEC (160 acres in the Whitehorse Creek WSA).


Solid Minerals Management

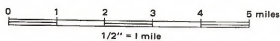
The area would be open to leasable and salable minerals; however, no activity is anticipated. Although coal, oil shale, uranium, and gold may be present, their development potential is low. Several placer gold claims occur in the WSA. A field check of these claims did not show any recent activity. No further activity is anticipated.

Off-Road Vehicle Management

Motorized vehicles would be limited to existing roads and trails and approximately 3 to 5 miles of new roads constructed to reach oil and gas well sites. There would be a seasonal closure to motorized vehicles in the Oregon Buttes Cultural ACEC (160 acres) from March 1 through July 1 because this is a particularly sensitive period for elk and raptors.



- Wilderness Study Area Boundary
-  Oregon Buttes Cultural ACEC
-  Public Land (Administered by BLM)
-  Private Land
-  State Land
-  Federal Minerals



Map WH-1
Whitehorse Creek WSA
LAND AND MINERAL STATUS

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Recreation Management

Hunting would be allowed, but motor vehicles would be limited to existing roads and trails. The level of hunting use in the short term would be 25 to 30 hunter-days annually for sage grouse, 15 to 20 hunter-days annually for pronghorn antelope, and 55 to 60 hunter-days annually for deer and elk. In the long term, as oil and gas activity occurs, big game would be displaced. Hunter use for antelope would remain about the same. Hunter use for deer and elk would be about 15 to 20 hunter-days annually.

No developments associated with recreation are anticipated. The existing recreation uses in the WSA would remain the same. The major uses of the WSA would continue to be day use (i.e., people drive to the WSA for the day, then drive elsewhere to spend the night). Approximately 50 visitor-days would be spent in the WSA for non-developed recreation.

Grazing Management

Grazing management practices (Bush Rim and Pacific Creek grazing allotments) would not change from those currently in place. Within the Whitehorse Creek WSA, the estimated carrying capacity is 311 AUMs for cattle and 366 AUMs for sheep, with use occurring from May 1 to November 15. There are four range improvements in the WSA. No range improvements are planned. The use of motorized vehicles in connection with range management activities would be allowed. This use is infrequent and would generally be by ranchers using a pickup truck or similar vehicle for the annual inspection of range improvements and for maintenance of range improvements. Maintenance of range improvements would be the responsibility of the permittee. Reconstruction would be the responsibility of BLM.

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 4,002 acres of the Whitehorse Creek WSA be recommended as suitable for wilderness designation. There would be no oil and gas leases issued in the WSA. Therefore, there would be no surface disturbance associated with oil and gas exploration and development. Motorized vehicles would be prohibited in the WSA.

Oil and Gas Management

Oil and gas leasing would not resume in the WSA. There are no pre-FLPMA oil and gas leases in the Whitehorse Creek WSA. Therefore, management of the area would not be constrained by this type of valid existing right. No exploration or development would occur.

Solid Minerals Management

No activity related to salable or leasable minerals would be allowed, and no activity related to locatable minerals is anticipated.

Off-Road Vehicle Management

Motorized vehicles would be prohibited in the entire WSA.

Recreation Management

Management would be the same as under the Proposed Action, except that hunters would not be allowed to use motorized vehicles. The major uses of the WSA would continue to be day use (90 to 100 visitor-days annually). People would drive to the WSA for the day, then drive elsewhere to spend the night. There would be 25 to 30 hunter-days annually for sage grouse, 15 to 20 hunter-days annually for pronghorn antelope, and 55 to 60 hunter-days annually for deer and elk.

Grazing Management

Grazing management practices (Bush Rim and Pacific Creek grazing allotments) would not change from those currently in place. Within the Whitehorse Creek WSA, the estimated carrying capacity is 311 AUMs for cattle and 366 AUMs for sheep, with use occurring from May 1 to November 15. There are four range improvements in the WSA. No range improvements are planned. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981). Maintenance of range improvements would be the responsibility of the permittee. Reconstruction would be the responsibility of BLM.

SITE-SPECIFIC ANALYSES - WHITEHORSE CREEK

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA.

Affected Environment

The dominant use of the Whitehorse Creek WSA is livestock grazing. The area also receives some use for wildlife observation and rockhounding, as well as hunting. Oil and gas exploration is likely in the future.

A major portion of the WSA is made up of a group of eroding red, green, and gray buttes similar to the Honeycomb Buttes WSA nearby. Topography in the central and western sections consists of a flat, sage-covered basin, rimmed by sheer mud and clay escarpments rising to 100 feet above the valley floor. Valuable big game habitat (elk, mule deer, and pronghorn antelope) is found within the area.

The Oregon Buttes Cultural ACEC (3,520 acres) will continue to be managed in accordance with the ACEC management plan (160 acres of the ACEC are within the Whitehorse Creek WSA). The remainder of the Oregon Buttes Cultural ACEC is in the Oregon Buttes WSA. The ACEC will be managed primarily to protect historic and wildlife values.

Mineral Resources

Hydrocarbons are the most valuable potential mineral resources of the WSA. The WSA contains both source rocks and potential reservoir rocks for oil and gas and is considered to have moderate development potential for oil and gas. The most probable recoverable reserves estimated to exist within the 4,002-acre WSA is 6.2 billion cubic feet (BCF) of natural gas.

The Buccaneer Unit #1 well (sec. 23, T. 26 N., R. 102 W.), was used to determine the most probable reserves. Although it has never been produced, due to the lack of a pipeline in the area, extensive well testing shows very favorable reserves. The deeper formations, tested only by one other well in section 8, T. 26 N., R. 101 W., also show good potential for production. This potential may not be realized in the near future due to excessive drilling depths, the lack of a pipeline in the area, and the risks involved in drilling stratigraphic formations.

The maximum recoverable reserves estimate was calculated from figures in the "Wyoming Geological Association Guidebook, Greater Green River Basin Symposium." In that study, it was estimated that there are 3.32 BCF (billion cubic feet)

of gas per 640 acres explored in the Green River Basin (15,046 square miles). This amounts to total recoverable reserves in the Green River Basin of about 50,000 BCF of gas.

There are no oil or gas wells in the WSA and 11 dry holes have been drilled within a 6-mile radius of the WSA. Two wells, drilled in excess of 11,000 feet just southwest of the WSA, tested good potentials in the deeper Cretaceous Formations, and only the well in section 8 was plugged as uneconomic.

All of the WSA is included within a U.S.G.S. coal classification order and within a coal lands withdrawal by Executive Order (November 15, 1910). The Whitehorse Creek WSA has low potential for the economic development of the coal resource. There is a potential for the occurrence of a coal-bearing sequence at depths in excess of 2,300 to 5,000 feet. No coal beds outcrop within the WSA.

There are oil shale beds in the Wilkins Peak Member of the Green River Formation in the WSA, but these beds are thin and low grade. The oil shale resource has a low development potential in the WSA.

North of the WSA on the southeast edge of the Prospect Mountains, uranium mineralization occurs in sandstone and conglomerate that are probably in the Wasatch Formation. A large portion of the WSA has been staked for uranium and most of these claims are pre-FLPMA. However, at present there is no development of the uranium in the WSA. The WSA has a low development potential for economic deposits of uranium.

Several placer gold claims occur in the WSA. The claims appear to have been staked on conglomerate deposits occurring in the Wasatch Formation. A field check of these claims in August 1981 did not show any recent activity, and no gold production has been reported from these claims. Gold has a low development potential for the WSA.

Wildlife

Valuable big game habitat is found within the area. Pronghorn antelope use the WSA during the summer. Mule deer use the WSA during the summer and linger until the late fall, when bad weather may force them to migrate south. Elk use the WSA during the summer, and remain in the southwestern portion of the WSA during the winter. Elk also use a very small area in the southeast portion of the WSA for calving, one of the few suitable calving areas that the Sands elk herd has left.

The Whitehorse Creek WSA (4,002 acres) constitutes 0.2 percent of the 1,999,076-acre Steamboat elk hunt area; 0.3 percent of the

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1,295,248-acre Steamboat mule deer hunt area; and 0.5 percent of the 858,181-acre Eden pronghorn antelope hunt area.

Good raptor habitat is present in the WSA. Spot inventories have been conducted and numerous raptor nests were noted (prairie falcon and red-tailed hawk). Mountain lion habitat is generally limited to the southeastern sections of the WSA. Bobcats use the entire WSA; however, both bobcats and mountain lions are not considered to be common. Foxes occur in the northwestern tip of the WSA, and coyotes are common throughout the WSA.

Wilderness Values

The BLM inventoried the Whitehorse Creek area and all contiguous public lands for wilderness characteristics as outlined in the BLM Wilderness Inventory Handbook (BLM 1978d). On the basis of the intensive inventory, the Bureau determined that the Whitehorse Creek WSA met the criteria established in Section 2(c) of the Wilderness Act of 1964. The findings of the wilderness inventory for each of the four mandatory wilderness characteristics may be summarized as follows:

Size

The WSA contains 4,002 acres and is entirely public land. The acreage was too small to meet the 5,000-acre minimum, but due to public comment and because this inventory unit is separated from the Oregon Buttes WSA by only a two-track trail, the inventory unit was retained as a wilderness study area and was evaluated in conjunction with the Oregon Buttes WSA.

Naturalness

The majority of the WSA is in an almost pristine natural condition. A few obscure two-track trails enter the WSA for a few hundred yards in several locations.

Outstanding Opportunities

Opportunities for solitude are particularly high in areas west of the Continental Divide, north of Oregon Buttes, and south of Pastel Butte. From the top of the largest butte in the area, which rises 650 feet above the basin floor and 7,915 feet above sea level, a sense of isolation and solitude is felt as one looks down into the maze-like setting created by the eroded escarpments lining the Whitehorse Creek Basin.

Particularly outstanding opportunities for primitive and unconfined recreation include rock climbing and studying the unique badland topography of Whitehorse Creek. Other excellent recreational opportunities of the WSA include nature and wildlife photography, bird watching, and big game hunting.

Supplemental Values

There is a wide variety of wildlife species in the WSA. The badlands are laced with petrified wood, agate beds, and fossils of snails and clams, which provide outstanding rockhounding values. The objectives for managing the Oregon Buttes Cultural ACEC include the protection of the area's scenic integrity as a historic landmark. Oregon Buttes is a dominating landmark which was viewed by emigrants using the Oregon Trail as the halfway point on their journey from Independence, Missouri to the Pacific Ocean. The Buttes also denoted the Continental Divide and the point where emigrants passed into the Pacific watershed.

The WSA contains good raptor habitat. Prairie falcons and red-tailed hawks have been found in the WSA.

Recreation Opportunities

Estimates of use for the hunt areas in which the Whitehorse Creek WSA (4,002 acres) is located include 229 hunter-days in the 1,999,076-acre Steamboat elk hunt area; 1,832 hunter-days in the 1,295,248-acre Steamboat mule deer hunt area; and 2,097 hunter-days in the 858,181-acre Eden pronghorn antelope hunt area. Antelope (15 to 20 hunter-days annually), deer and elk (55 to 60 hunter-days annually), and sage grouse (25 to 30 hunter-days annually) are all hunted in the WSA.

Current use of the WSA for day use (nondeveloped recreation) is approximately 75 visitor-days annually.

Environmental Consequences

The likelihood for some oil and gas activity to occur in the area is relatively high in the long term. This assumption is based on the results of testing the Buccaneer Unit #1 well (sec. 23, T. 26 N., R. 102 W.). Although it has never been produced, due in part to the lack of a pipeline in the area, extensive well testing shows very favorable reserves. While it is likely that development would take place, it is not likely to occur in the near future even if the area is opened to oil and gas

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leasing. A success ratio was not estimated because the fact that the testing results were positive were offset by two other factors: (1) no oil or gas wells exist within the WSA, and (2) eleven dry holes have been drilled within a 6-mile radius of the WSA.

Impacts of the Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 4,002-acre Whitehorse Creek WSA be recommended as suitable for wilderness designation. There would be a potential for 7 oil and gas wells to be drilled in the WSA, resulting in 49 acres of surface disturbance. Motorized vehicles would be limited to existing roads and trails. Approximately 3 to 5 miles of new roads would be constructed to reach oil and gas well sites.

Impacts to Oil and Gas Exploration and Production

If the WSA were not designated wilderness, there would be a potential for oil and gas exploration and development. The most probable reserves that would be recovered from the WSA is 6.2 BCF of natural gas. However, because the reserves are expected to be found in the deeper formations, it is not likely they would be recovered in the near future. As market conditions change and the price of natural gas increases, drilling in the vicinity of the WSA would be likely to increase.

Conclusion. If the WSA were not designated wilderness, approximately 6.2 BCF of gas would be recovered from the WSA. This represents only about 0.01 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

Approximately 49 acres of wildlife habitat would be directly disturbed as a result of oil and gas activities and 3 to 5 miles of new roads would be constructed to reach oil and gas well sites. Oil and gas exploration and development activity would not take place in the short term (within the next 5 years). When exploration and development activity commences, there would be some displacement of big game animals into adjacent areas. However, the size of the Whitehorse Creek WSA (4,002 acres) is small and big game populations in the area are not expected to be affected. As construction and drilling activity is completed and production starts, the displacement of animals would be reduced.

Because the far eastern portion of this WSA is used for elk calving, surface-disturbing activities could cause some displacement of the desert elk herd (the herd unit occupies an area much larger than the WSA). The no surface occupancy restrictions in the Oregon Buttes Cultural ACEC and the closure of the Oregon Buttes Cultural ACEC to motorized vehicles during elk calving season would help mitigate adverse impacts to elk during this crucial period.

A general increase in surface-disturbing activities may cause a slight decrease in the number of deer occupying the WSA. Because pronghorn antelope are more tolerant to disturbance, populations within the WSA are not expected to change.

It is anticipated that raptor productivity would be the same, due to stipulations requiring buffer zones around nest sites, seasonal restrictions on motorized vehicles in the Oregon Buttes Cultural ACEC (160 acres).

Implementation of the Proposed Action (No Wilderness) would have no impact on the large predator species (bobcats, mountain lions, and coyotes). Because these species have low populations and very large ranges, the potential disturbance in the WSA would cause them to avoid portions of the area where activity is taking place.

Because of the small acreage that would be disturbed (49 acres) by oil and gas activities, no impacts to wildlife populations are expected.

Recreation activities in the WSA are at very low levels and are not expected to change if the WSA is not designated wilderness. Hunting is the primary recreation use and hunters are expected to use the WSA at current levels.

Conclusion. If the WSA were not designated wilderness, 49 acres of wildlife habitat would be directly disturbed (slightly over 1 percent of the WSA). There would be some displacement of big game when the level of human activity associated with the development of oil and gas resources is highest. However, in part because of the small size of the WSA, such activity is not expected to affect big game populations in the area.

Impacts to Wilderness Values

Some wilderness values (unique values and naturalness) would be protected on 160 acres within the Oregon Buttes Cultural ACEC. Adverse impacts would occur to wilderness values (solitude and naturalness) in the rest of the WSA. The wilderness values would be lost, at least until oil and gas development operations were complete.

SITE-SPECIFIC ANALYSES - WHITEHORSE CREEK

and production ceases. The naturalness of the WSA, as well as opportunities for solitude and primitive recreation, would be lost. The portion of the ACEC in the WSA (160 acres) is small, and disrupting sights and sounds from oil and gas activities in other parts of the WSA would carry into the ACEC, limiting the opportunities for solitude and primitive recreation.

The use of motorized vehicles in connection with range management activities would be occasional and would not affect wilderness values except for the short period of time when the activities are taking place (probably no more than a day or two). These activities would probably be necessary only once every 3 to 5 years. The occasional traffic would not result in existing trails becoming more visible, and therefore, would not adversely affect naturalness.

Conclusion. If the WSA were not designated wilderness, the area's wilderness values would be lost until oil and gas development activities are completed and the area is allowed to return to its current condition.

Impacts to Recreation Opportunities

Vehicle access in the WSA would be limited to existing roads and trails, with seasonal closures in the ACEC. This factor would not affect the number of hunter-days spent in the WSA over the short term because this limitation currently exists and the area contains several trails that are used annually during hunting season. In the long term, when oil and gas development is expected to take place, there would be a decrease in hunting quality and in the number of hunter-days spent in the WSA for deer and elk from the current 55 to 60 hunter-days annually to 30 to 35 hunter-days annually. This amounts to about a 50 percent reduction. The reduction is relatively high because of the small size of the WSA. Activity anywhere in the WSA is likely to have an adverse impact in the rest of the WSA. The number of hunter-days spent in the WSA for antelope and sage grouse are expected to remain at current levels.

Recreation use associated with nondeveloped recreation would be reduced from the current 75 visitor-days annually to about 50 visitor-days annually because the increased disturbance in the WSA would make it less attractive to visitors.

Overall, because of the small size of the WSA, no effect on hunting in the general vicinity of the WSA is anticipated. Other recreation uses of the WSA are not expected to change in either the long term or the short term.

Conclusion. If the WSA were not designated wilderness, there would be a 50 percent reduction in the number of hunter-days (for deer and elk) spent in the WSA while oil and gas development is occurring. In general, while there may be some effects on recreation opportunities in the WSA itself, the use levels are small and the availability of recreation opportunities in the surrounding area is large. The demand for all types of recreation opportunities would be easily met.

Impacts of the Alternative (All Wilderness)

The All Wilderness Alternative would be that all 4,002 acres of the Whitehorse Creek WSA be recommended as suitable for wilderness designation. Oil and gas leases would not be issued in the WSA. Therefore, there would be no surface disturbance associated with oil and gas development. Motorized vehicles would be prohibited in the WSA.

Impacts to Oil and Gas Exploration and Production

There would be no oil and gas production from the WSA because no oil and gas leases would be issued. The opportunity to explore for oil and gas resources would be lost. The most probable recoverable reserves foregone would be 6.2 BCF of natural gas.

Conclusion. If the WSA is designated wilderness, there would be no oil and gas production from the WSA. Approximately 6.2 BCF of gas would be foregone. This amount constitutes approximately 0.01 percent of the estimated reserves in the Green River Basin (50,000 BCF of gas).

Impacts to Wildlife Habitat and Populations

There would be no surface disturbance associated with oil and gas development because no new oil and gas leases would be issued. The area is currently unleased. Recreation activities are expected to remain at their current low levels. It is anticipated that big game populations in the WSA would remain at current levels.

The closure of the area to motorized vehicles (including over-snow vehicles), except for those associated with valid existing rights, would eliminate adverse impacts to big game from such activities.

Conclusion. If the WSA were designated wilderness, there would be no impacts to wildlife habitat

SITE-SPECIFIC ANALYSES — DEVILS PLAYGROUND-TWIN BUTTES

or populations because no additional surface disturbance or changes in use of the WSA are expected.

Impacts to Wilderness Values

The area's naturalness, solitude, and opportunities for primitive recreation would be maintained in the WSA because no surface-disturbing activities would occur.

However, because of the small size of the WSA, any development that takes place on adjacent areas could adversely affect wilderness values in much of the WSA. The greatest degree of adverse impacts would occur when construction and drilling activity is at its peak, adversely affecting solitude in the Whitehorse Creek WSA. When production starts on these areas outside the Whitehorse Creek WSA, adverse impacts to solitude would be somewhat less.

The potential limited vehicle use in connection with range management activities would not result in existing trails becoming more visible.

Conclusion. If the WSA were designated wilderness, wilderness values would be retained in the short term. In the long term, some wilderness values (especially solitude) would be lost when exploration and development begins.

Impacts to Recreation Opportunities

The current level of use (75 visitor-days annually) would increase to 90 to 100 visitor-days annually for nondeveloped recreation.

The number of hunter days spent in the WSA for deer and elk would remain about the same. Levels of use for antelope (15 to 20 hunter-days annually) and sage grouse (25 to 30 hunter-days annually) would remain about the same.

Conclusion. If the WSA were designated wilderness, the WSA would remain in its natural state and would be more attractive to nondeveloped recreationists and to hunters (especially for deer and elk). This would result in an overall increase in recreation use in the WSA of about 20 percent.

DEVILS PLAYGROUND - TWIN BUTTES WSA

Summary Description and Background

The Devils Playground - Twin Buttes WSA is characterized by highly eroded badlands devoid of vegetation, and by high outcrops. The most prominent outcrops are Black Mountain and Twin Buttes, which are examples of exposed Bridger Formation capped with Bishop Conglomerate. Sagebrush-grass-juniper communities dot the dominant badlands surrounding Black Mountain and Twin Buttes. The WSA encompasses 23,841 acres of public land (Map DP-1), including 1,280 acres of split estate (federal surface and State minerals).

Proposed Action and Alternative

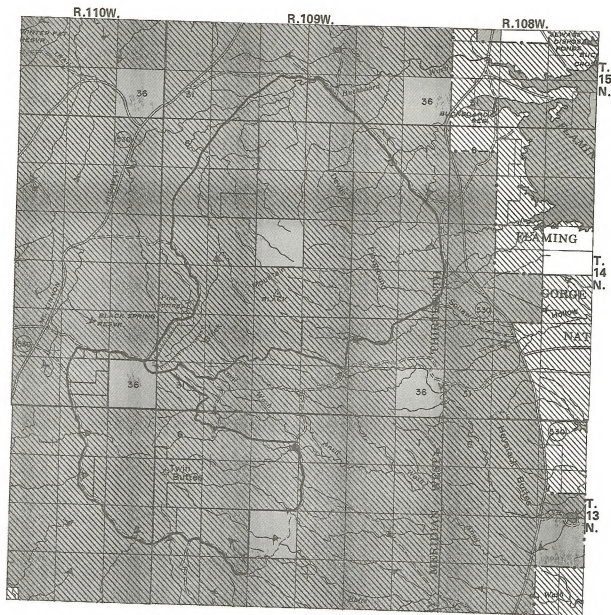
The two alternatives analyzed were: 1) that no acreage in the 23,841-acre Devils Playground-Twin Buttes WSA be recommended as suitable for wilderness designation and 2) that all 23,841 acres be recommended as suitable for wilderness designation.

Proposed Action (No Wilderness - No Action)

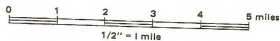
The Proposed Action would be that no acreage in the 23,841-acre Devils Playground-Twin Buttes WSA be recommended as suitable for wilderness designation. No oil and gas exploration or production is anticipated. Therefore, no new roads are expected. Motorized vehicles would be limited to the 23 seismic and two-track trails.

Oil and Gas Management

Oil and gas leasing would resume in the WSA. Unleased land in the WSA would be offered for



- Wilderness Study Area Boundary
 ■ Public Land (Administered by BLM)
 □ Private Land
 □ None State Land
 ▨ Federal Minerals



Map DP-1
 Devils Playground-Twin Buttes WSA
 LAND AND MINERAL STATUS

SITE-SPECIFIC ANALYSES — DEVILS PLAYGROUND-TWIN BUTTES

lease. There would be no special stipulations to protect wildlife. Oil and gas exploration and development is not anticipated. This assumption is based on the success ratio of nearby wells. Twelve dry holes have been drilled within 6 miles of the WSA. There are no known recoverable oil and gas resources. No new roads would be constructed.

Solid Minerals Management

No activity related to salable, locatable, or leasable minerals is anticipated. Although coal, oil shale, uranium, and gold may be present, their development potential is low. The development potential for iron is considered to be moderate; however, due to the thinner, deeper beds of mixed sodium and halite (salt), development is unlikely in the foreseeable future. There are also better sources of these minerals nearby.

Off-Road Vehicle Management

ORVs would continue to be limited to the 23 seismic and two-track trails. No new roads would be constructed.

Recreation Management

Hunting would be allowed but motorized vehicles would be limited to existing roads and trails. No developments associated with recreation are anticipated. The existing recreation uses in the WSA would remain the same.

Grazing Management

Grazing management practices (Henry's Fork grazing allotment) would not change from those currently in place. Within the Devils Playground-Twin Buttes WSA, the estimated carrying capacity is 1,420 AUMs for cattle and 168 AUMs for sheep, with use occurring from May 1 to December 15. Range improvements in the WSA are 17 small earthen reservoirs, pasture fencing, and spring developments with pipelines. Their condition varies from complete disrepair to functional and operative. Those spring developments that are in disrepair would be reconstructed because they provide the majority of the water for livestock purposes. No additional developments are planned. The use of motorized vehicles in connection with range management activities would be allowed. The Bureau performs the maintenance on spring developments and pipelines. Fence maintenance is performed by permittees.

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 23,841 acres of Devils Playground-Twin Buttes WSA be recommended as suitable for wilderness designation. Oil and gas leases would not be issued in the WSA. There would be no surface disturbance associated with the development of oil and gas resources. Motorized vehicles would be prohibited, except in connection with range management activities. There are 1,280 acres of split estate (federal surface, State minerals) included in the WSA.

Oil and Gas Management

Oil and gas leasing would not resume in the WSA. There are no pre-FLPMA oil and gas leases in the Devils Playground - Twin Buttes WSA. Therefore, management of the area would not be affected by this type of valid existing right. No exploration or development is anticipated.

Solid Minerals Management

No activity related to salable minerals would be allowed. The WSA would be closed to mineral location and leasing.

Off-Road Vehicle Management

Motorized vehicles would not be allowed in the WSA, except in connection with the maintenance of range improvements.

Recreation Management

Management would be the same as under the Proposed Action except that hunters would not be allowed to use motorized vehicles.

Grazing Management

Grazing management practices (Henry's Fork grazing allotments) would not change from those currently in place. Within the Devils Playground-Twin Buttes WSA, the estimated carrying capacity is 1,420 AUMs for cattle and 168 AUMs for sheep, with use occurring from May 1 to December 15.

SITE-SPECIFIC ANALYSES — DEVILS PLAYGROUND-TWIN BUTTES

Range improvements in the WSA are 10 small earthen reservoirs and 2 fences. Their condition varies from complete disrepair to functional and operative. Spring developments that are in disrepair would be reconstructed but would not be increased in size. Maintenance of range improvements would be conducted by the permittee. No additional developments are planned. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA.

Affected Environment

The area receives only limited use, mostly from livestock grazing and hunting; it receives negligible use for camping and other activities. Use of the area is limited by the lack of potable water sources. There are no ACECs associated with the Devils Playground - Twin Buttes WSA.

Mineral Resources

Exploration and geologic projections in the immediate area show no known recoverable reserves at the location of the Devils Playground - Twin Buttes WSA. Therefore, the most probable recoverable reserves has been assigned a value of zero.

There are no oil or gas wells in the WSA. Twelve dry holes have been drilled within a 6-mile radius of the WSA. Current Creek Federal #1 well (SW¼SW¼ of sec. 20, T. 14 N., R. 108 W.) was drilled to a depth of 19,248 feet in April 1976. It tested the Frontier Formation at a depth in excess of 16,000 feet with maximum flow rates of 500,000 cubic feet of gas per day. This well was abandoned as sub-economic. It was re-entered to test shallower formations, which also proved sub-economic.

The WSA is under an oil shale withdrawal (Executive Order 5327, May 20, 1930; and Public Land Order 4522-1967) and is segregated from mining to protect the oil shale deposits. The WSA has low development potential for oil shale; however,

because the deposits are low in grade, thin bedded, and deep, they are of little commercial interest.

Uranium, phosphates, coal, and clinoptilolites are also known to occur in the WSA, but they have low development potential. The WSA is within the Green River-Hams Fork Coal Region. The coal, however, is found in thin, discontinuous, lignite beds.

The potential for sodium (trona) development was formally recognized by the delineation of the Green River Basin Known Sodium Leasing Area (KSLA). The WSA is almost entirely within the KSLA boundaries (approximately 95 percent) and is considered to have moderate development potential. However, the WSA portion of the KSLA has thinner, deeper beds of mixed sodium and halite (salt) deposits; development is unlikely in the foreseeable future. Other sources of trona are currently being mined nearby. These sources of trona ship trona for use across the country and for export. BLM and industry projections indicate that existing sodium reserves currently under lease can meet market demands (BLM 1982a).

The outcrops of the Bishop Conglomerate in the WSA are of sufficient quality to be used as highway construction material. The sand and gravel reserve, although substantial, has low development potential because it is found on mesa tops with steep surrounding topography and is inaccessible.

Wildlife

The Devils Playground - Twin Buttes WSA provides a variety of wildlife habitat. The habitat types in the WSA include badlands, sagebrush steppe, and juniper. There is a variety of animal life including big game, song birds, small mammals, raptors, and sage grouse. Of the major big game species, only mule deer and pronghorn antelope are found within the WSA. The area provides yearlong deer and antelope range. The WSA does not provide habitat for elk or moose.

The Devils Playground - Twin Buttes WSA (23,841 acres) constitutes 2.8 percent of the 842,195-acre Cedar Mountain mule deer hunt area; and 2.7 percent of the 864,391-acre Cedar Mountain pronghorn antelope hunt area.

Wilderness Values

The findings of the wilderness inventory for each of the four mandatory wilderness characteristics may be summarized as follows:

SITE-SPECIFIC ANALYSES — DEVILS PLAYGROUND-TWIN BUTTES

Size

The WSA contains 23,841 acres of public land which includes 1,280 acres of split estate (federal surface, State minerals).

Naturainess

The Devils Playground - Twin Buttes WSA is essentially natural in character, although it includes 23 seismic and two-track trails, 17 reservoirs, and 2 fences. The seismic trails and two-track trails vary from faint and obscure to bladed scars and substantially noticeable. However, these intrusions do not detract from the overall natural character of the WSA.

Outstanding Opportunities

The diverse topography and size of the WSA combine to screen and disperse use, and provide ample opportunities to experience solitude.

Supplemental Values

The WSA has interesting and unusual geologic features. Fossil deposits and evidence of early man can be found throughout the WSA. The Pine Springs archeological campsite (T. 14 N., R. 109 W., sec. 19 and 30), immediately to the west of the WSA, is a small concentrated site. It contains stratified remains of several prehistoric cultures, the oldest of which has been dated to 9,000 years ago. The Pine Springs site is considered extremely significant and is eligible for the National Register of Historic Places; but was not nominated. The Pine Springs site was withdrawn from surface entry and mining in June 1987 for a period of 20 years unless a subsequent review determines that the withdrawal should be extended.

A large number of stone circle or tipi ring sites are located within the WSA. These sites are believed to date to the Late Archaic and Late Prehistoric Periods (2,500 and 1,500 years ago, respectively) although some may be Protohistoric. Tipi ring sites are unusual in southwest Wyoming and are considered significant cultural resources. None of the tipi ring sites have been evaluated for the National Register of Historic Places, but some or all could be eligible.

Recreation Opportunities

Present recreation use of the WSA is limited. Antelope and deer hunters utilize the WSA, and there

is some hunting of predators (coyotes). Approximately 25 hunter-days are spent in the WSA annually for mule deer and antelope. Most off-road vehicle use is hunter related. Rockhounding occurs on an infrequent basis, and a very small amount of overnight camping probably occurs. Recreation use, other than hunting, accounts for less than 25 visitor-days annually.

The Flaming Gorge National Recreation Area (NRA) which draws thousands of visitors every year, is one mile east of the WSA. The Ashley National Forest manages the NRA for regional recreation use, boating, camping, fishing, waterskiing, and other water sports. The opportunities afforded by the NRA draw potential use from the WSA in activities like hiking and rockhounding.

Estimates of use for the hunt areas in which the Devils Playground - Twin Buttes WSA is located include 1,444 hunter-days in the 864,391-acre Cedar Mountain mule deer hunt area; and 964 hunter-days in the 842,195-acre Cedar Mountain pronghorn antelope hunt area.

Environmental Consequences

Impacts of the Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 23,841-acre Devils Playground-Twin Buttes WSA be recommended as suitable for wilderness designation. No oil and gas exploration or production is anticipated. Therefore, no surface disturbance associated with oil and gas activity is anticipated. ORVs would be limited to existing roads and trails.

Impacts to Oil and Gas Exploration and Production

There are no known recoverable reserves in the Devils Playground - Twin Buttes WSA. Twelve dry holes have been drilled within 6 miles of the WSA. The most probable recoverable reserves estimated for the WSA is zero. Therefore, no oil and gas production is expected from the WSA if it is not designated wilderness, and the area is again offered for lease.

Conclusion. If the WSA were not designated wilderness, no exploration for, or production of oil and gas is anticipated from the WSA. However, the opportunity for oil and gas development would be maintained.

SITE-SPECIFIC ANALYSES — DEVILS PLAYGROUND-TWIN BUTTES

Impacts to Wildlife Habitat and Populations

The area provides yearlong habitat for antelope and deer. However, since no additional surface disturbance is anticipated and no change is expected due to ORVs or recreation use, no effect of wildlife habitat is anticipated. Consequently, there would be no effect on wildlife populations. Hunting pressure would remain about the same, approximately 25 hunter-days annually.

Conclusion. If the WSA were not designated wilderness, there would be no effect on wildlife habitat or populations because no change in use of the WSA is expected.

Impacts to Wilderness Values

Although statutory protection would not be afforded the area, naturalness, solitude, and unique values would remain intact because no disturbance associated with mineral activity is anticipated. However, solitude may be lost for short periods of time if the area receives recreation use involving ORVs. This use is expected to remain at its current low level. Overall, no significant losses in wilderness values would occur because there would be no mineral development.

The use of motorized vehicles in connection with range management activities would be occasional and would not affect wilderness values except for the short period of time when the activities are taking place (probably no more than a day or two). These activities would probably not be necessary every year. The occasional use would not result in existing trails becoming more visible.

Conclusion. If the WSA were not designated wilderness, most of the wilderness values would remain because no long-term disturbance is expected and the recreation use of the WSA is not expected to change.

Impacts to Recreation Opportunities

Motorized vehicle use would remain limited to designated roads and trails. This vehicle restriction would not cause any change in vehicle-dependent recreation uses, primarily hunting (approximately 25 hunter-days annually) because the area currently is managed under this restriction.

Other recreation uses such as hiking, horseback riding, and rockhounding are expected to remain at present low levels (approximately 25 visitor-days annually), primarily due to the limited

water supplies available in the WSA. Thus, no impact is anticipated.

Due to the proximity of the Flaming Gorge National Recreation Area, which receives a much higher level of use, no impact on recreation opportunities in the region is anticipated.

Conclusion. If the WSA were not designated wilderness, there would be very little change in the uses of the WSA. The Flaming Gorge National Recreation Area, which is in the immediate vicinity of the WSA, receives a much higher level of recreation use in numbers of visitors.

Impacts of the Alternative (All Wilderness)

The All Wilderness Alternative would be that all 23,841 of the Devils Playground-Twin Buttes WSA be recommended as suitable for wilderness designation. There would be no oil and gas leases issued in the WSA and no surface disturbance associated with oil and gas development. ORVs would be prohibited in the WSA.

Impacts to Oil and Gas Exploration and Production

There would be no surface disturbance associated with mineral exploration or development. The most probable recoverable reserves in the WSA has been estimated as zero. Therefore, if the WSA is designated wilderness, it is likely that no oil and gas resources would be lost. However, the provision of not issuing oil and gas leases would preclude exploration for oil and gas.

Conclusion. If the WSA were designated wilderness, there would be no production of oil and gas but no production would be foregone because the recoverable reserves in the WSA are estimated as zero.

Impacts to Wildlife Habitat and Populations

The impacts to big game habitat and populations would be similar to those under the Proposed Action. The activities that are most likely to affect wildlife populations or their habitat are not expected to change, and impacts to wildlife are not expected.

Conclusion. If the WSA were designated wilderness, there would be no impacts to wildlife habitat or populations because no additional surface disturbance or changes in use of the WSA are expected.

SITE-SPECIFIC ANALYSES — RED CREEK BADLANDS

Impacts to Wilderness Values

The area's naturalness, solitude, and opportunities for primitive recreation would be maintained within the WSA because of the lack of oil and gas activities and the closure of the WSA to motorized vehicles. Wilderness designation would help to protect the unique values of this WSA. Designation of the WSA as wilderness would increase the diversity of the National Wilderness Preservation System. However, such designation is not expected to increase the public's use of or interest in the WSA.

The occasional limited vehicle use in connection with range management activities would not result in existing trails becoming more visible. The requirement for approval of the use of motorized vehicles would help maintain wilderness values in the WSA.

Conclusion. If the WSA were designated wilderness, the area's wilderness values would be maintained because of the lack of development and motor vehicle activity in the area.

Impacts to Recreation Opportunities

Recreation motor vehicles would not be permitted in the WSA, thereby eliminating vehicle-dependent recreation use. Access into the WSA would be on horseback or on foot because motorized vehicles would be prohibited in the WSA. ORVs are already limited to existing roads and trails and this restriction is not expected to affect recreation use.

A reduction of 12 hunter-days would be expected. Hunters who would not use the WSA of the closure to motorized vehicles are expected to hunt in nearby areas. The reduction is not expected to be any greater because the hunter use is for pronghorn antelope and mule deer. Hunters are more willing to pack a small antelope longer distances to their vehicle than if the animal were larger. However, the elimination of motorized is expected to discourage some hunters.

Other recreation activities such as hiking, horseback riding, etc., would continue to be limited, due to lack of water. Wilderness designation would not change these limitations. If the WSA were designated wilderness, public interest in and use of the area would not be expected to change.

Due to the proximity of the Flaming Gorge National Recreation Area, which receives a much higher level of use, no impact on recreation opportunities in the region is anticipated. The very low levels of recreation use in the WSA could easily

be accommodated in the much larger National Recreation Area and other nearby public and National Forest lands.

Conclusion. If the WSA were designated wilderness, there would be no effect on recreation opportunities because the levels and types of use in the WSA are very low and would be easily accommodated in nearby areas.

RED CREEK BADLANDS WSA

Summary Description and Background

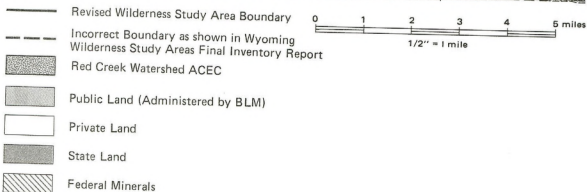
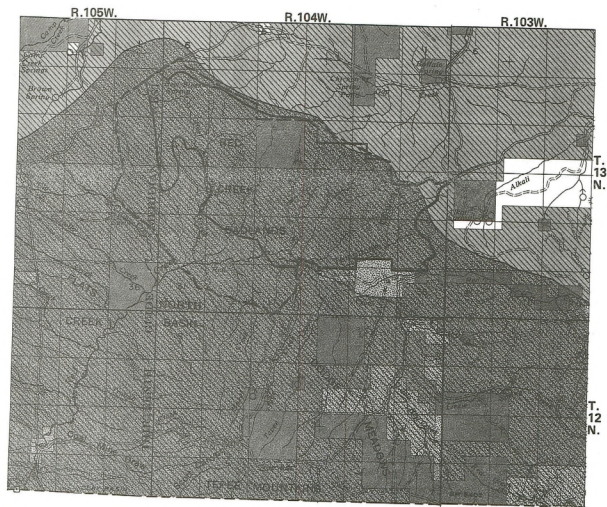
The Red Creek Badlands WSA is a highly scenic area, a fragile watershed, a valuable wildlife area, and a popular hunting area. The WSA is located approximately five miles north of the Wyoming-Utah state line and 35 miles south of Rock Springs. Vegetation varies from greasewood in the draws and sagebrush on the bench areas, to juniper on the upper slopes. The Red Creek Badlands WSA, 8,660 acres, is almost entirely within the 59,532-acre Red Creek Watershed Area of Critical Environmental Concern (ACEC) (8,500 acres of the 8,660-acre WSA). The Red Creek Badlands WSA (Map RC-1), includes 8,020 acres of public land and 640 acres of State land and minerals.

Proposed Action and Alternative

The two alternatives (Map RC-1) analyzed were: 1) that no acreage in the 8,660-acre Red Creek Badlands WSA be recommended as suitable for wilderness designation and 2) that all 8,660 acres of the Red Creek Badlands WSA be recommended as suitable for wilderness designation.

Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 8,660-acre Red Creek Badlands WSA be recommended as suitable for wilderness designation. No oil or gas exploration or production is anticipated and no new roads would be constructed. Motorized vehicles would be limited to 2 old seismic lines, 2 two-track trails, and an abandoned road to an old well site.



Map RC-1
Red Creek Badlands WSA
LAND AND MINERAL STATUS

SITE-SPECIFIC ANALYSES — RED CREEK BADLANDS

Oil and Gas Management

Unleased lands in the 8,660-acre WSA would be offered for lease. No oil or gas exploration or production is anticipated. There are no known recoverable reserves. This assumption is based on success ratios of nearby wells. Those unleased lands that are also within the Red Creek Watershed ACEC (8,500 acres) would be leased with stipulations to protect water quality and reduce salinity and silt loads. Leases would also include stipulations to protect deer and elk winter range and raptors. Oil and gas operators would be required to reclaim areas no longer needed for oil and gas exploration and production. However, no special actions would be implemented to compensate for habitat lost as a result of oil and gas activities.

Solid Minerals Management

No activity related to locatable or leasable minerals is anticipated. Although coal and oil shale may be present, their development potential is low. The development potential for trona is considered to be moderate; however, due to the thinner, deeper beds of mixed sodium and halite (salt), development is unlikely for the foreseeable future. Better sources of these minerals are nearby.

Mineral extraction for salables would be allowed subject to applicable surface protection and rehabilitation requirements to protect other resources. However, no activity is anticipated.

Off-Road Vehicle Management

Off-road vehicles (ORVs) would be limited to existing roads and trails. No new roads would be constructed.

Recreation Management

Hunting would be allowed but motorized vehicles would be limited to existing roads and trails. No developments associated with recreation are anticipated. The existing recreation use of the WSA would remain the same.

Grazing Management

Grazing management practices (Red Creek grazing allotment) would not change from those currently in place. Within the Red Creek Badlands WSA, the estimated carrying capacity is 796 AUMs for cattle, with use occurring from May 1 to November 1. There are no existing range improvements in the WSA and none are planned.

The use of motorized vehicles in connection with range management activities would be allowed. This use would be infrequent and would be associated with permittees going into the area to check on livestock.

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA.

Alternative (All Wilderness)

The All Wilderness Alternative would be that all 8,660 acres of the Red Creek Badlands WSA be recommended as suitable for wilderness designation. There would be no oil and gas leases issued in the WSA. Therefore, there would be no surface disturbance associated with oil and gas development. There are 640 acres of State land and minerals in the 8,660-acre WSA.

Oil and Gas Management

Oil and gas leasing would not resume in the WSA. Unleased lands in the 8,660-acre WSA would not be offered for lease. No exploration or development is anticipated. There are no pre-FLPMA leases in the Red Creek Badlands WSA. Therefore, management of this area would not be affected by this type of valid existing right.

Solid Minerals Management

No activity related to salable minerals would be allowed. The WSA would be closed to mineral location and leasing.

Off-Road Vehicle Management

Motorized vehicles would not be allowed in the WSA.

Recreation Management

Management would be the same as under the Proposed Action except that hunters would not be allowed to use motorized vehicles in the WSA.

Grazing Management

Grazing management practices (Red Creek grazing allotment) would not change from those currently in place. Within the Red Creek Badlands WSA, the estimated carrying capacity is 796 AUMs for cattle, with use occurring from May 1

SITE-SPECIFIC ANALYSES — RED CREEK BADLANDS

to November 1. There are no existing range improvements in the WSA and none are planned. Where practical alternatives are not available, the occasional use of motorized equipment could be permitted on a case-by-case basis following an environmental analysis. Legitimate uses would be for the maintenance or replacement of existing improvements (e.g., fences, water wells, reservoirs, etc.), or for emergency purposes (BLM 1981).

Wildlife Management

No actions associated with wildlife management are anticipated in the WSA.

Affected Environment

The area receives only limited use, mostly from livestock grazing and hunting; it receives negligible use for camping and other activities. It does not receive any wilderness use.

There are 8,500 acres of the 8,660-acre Red Creek Badlands that are in the 59,532-acre Red Creek Watershed ACEC. The ACEC will be managed primarily for improvement of water quality through reduction of salinity and silt loads, and secondarily for identified wildlife values. The actions under the ACEC management plan are described under the alternatives. Red Creek Basin and Scott Canyon (south of the WSA) are expected to benefit by aggressive management to control erosion and sedimentation.

Mineral Resources

Exploration and geologic projections in the immediate area show no known recoverable reserves at the location of the Red Creek Badlands WSA. The most probable recoverable reserves in the WSA has been estimated as zero.

There are nine dry holes within a 3-mile radius of the Red Creek Badlands WSA, two of which are within the WSA. Both of these wells were drilled in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of sec. 15, T. 13 N., R. 104 W., to a depth of approximately 6,500 feet and tested the Mesaverde Formation with an uneconomic show of gas. The Weber Formation, at an approximate depth of 14,000 feet, was tested as uneconomic to produce (to the northeast and southwest of the WSA).

The Red Creek Badlands WSA is underlain by coal of unknown extent. Most of the WSA is within a coal land withdrawal established by Executive Order on July 13, 1910. However, this and other

withdrawals that may no longer serve a public purpose are under review by BLM for revocation. Carbonaceous shale and lenticular beds of subbituminous coal are common in the upper 3,000 feet of the Wasatch Formation (Bradley 1964). In a few places, these coal beds have been mined for domestic use, but coal development in the WSA is considered to have low potential.

Part of the WSA falls within an oil shale withdrawal (Executive Order 5327 and Public Land Order 4522) which closes that area to mining claim location. This withdrawal is also under review by BLM for revocation. Oil shale development in the WSA is considered to have low potential.

There are no indications of other mineral values or public interest in other mineral values within the WSA.

Water Resources

The WSA contains one perennial stream, Red Creek, and numerous intermittent streams. The major tributary to Red Creek in the WSA is Beef Steer Creek, an ephemeral stream. The WSA has highly erodible red shales and sandstones. The erodibility in the area is a major watershed concern. Natural sedimentation contributes sediment and salts to the Green River and eventually to the Colorado River system.

Wildlife

The Red Creek Badlands WSA is crucial winter range for mule deer. The WSA also provides pronghorn antelope and deer with habitat in the spring, summer, and fall seasons.

Elk are year-round residents of the WSA. Small groups of elk can be found in scattered, more remote pockets of juniper and related vegetation. Pronghorn antelope are the dominant big game species in the lower elevations, with mule deer becoming more prevalent in the juniper badlands and steeper canyons.

The 8,660-acre Red Lake WSA constitutes 3.3 percent of the 261,988-acre Pine Mountain elk hunt area; 3.5 percent of the 250,058-acre Pine Mountain mule deer hunt area; and 1.1 percent of the 772,012-acre Pine Mountain pronghorn antelope hunt area.

Other species present include the coyote, bobcat, golden eagle, red-tailed hawk, and numerous species of small animals. There are no known threatened or endangered species found in the WSA.

SITE-SPECIFIC ANALYSES — RED CREEK BADLANDS

The habitat types occurring within the WSA include juniper, badlands, cliffs, butte tops, outcrops, and mountain shrub and sagebrush steppe mixed with juniper. Some meadows are also found in the sagebrush steppe habitat. The predominant habitat type is a combination of the sagebrush steppe and juniper.

Wilderness Values

The BLM inventoried the Red Creek Badlands area and all contiguous lands for wilderness characteristics. The Red Creek Badlands WSA met the criteria established in Section 2(c) of the Wilderness Act of 1964. The findings of the wilderness inventory for each of the four mandatory wilderness characteristics is summarized as follows:

Size

The 8,660-acre WSA contains 8,020 acres of public land and 640 acres of State land.

Naturalness

The WSA is essentially natural in character. Close inspection reveals 2 old seismic lines, 2 two-track trails, and an abandoned road to an old well site. These intrusions are somewhat faded and are no longer considered substantially noticeable.

Outstanding Opportunities

The rugged terrain and vegetative screening of the badlands provides numerous opportunities for solitude. When these two features are combined, a sense of remoteness and isolation is evident. Primitive recreation opportunities include hunting, hiking, and horseback riding.

Supplemental Values

The red coloration of the rocks and cliffs, mixed with the various shades of vegetation, provides an interesting landscape. The WSA also contains piñon pine stands which are a rare occurrence this far north.

Recreation Opportunities

Recreation opportunities in the WSA include hiking, horseback riding, rockhounding, wildlife observation, and hunting. However, the steep topography, unstable soils, and the lack of potable water limit recreation activities. The primary recreation activity in the WSA is hunting. Most of the

off-road vehicle use in the WSA occurs in conjunction with hunting.

Estimates of use for the hunt areas in which the Red Creek Badlands WSA (8,660 acres) is located include 277 hunter-days in the 261,988-acre Pine Mountain elk hunt area; 1,709 hunter-days in the 250,058-acre Pine Mountain mule deer hunt area; and 1,819 hunter-days in the 772,012-acre Pine Mountain pronghorn antelope hunt area. There are approximately 25 to 30 hunter-days for deer annually and an equivalent amount of antelope hunting.

Environmental Consequences

Impacts of the Proposed Action (No Wilderness - No Action)

The Proposed Action would be that no acreage in the 8,660-acre Red Creek Badlands WSA be recommended as suitable for wilderness designation. There would be no oil and gas exploration and development and no changes in recreation use are expected. Motorized vehicles would be limited to the 2 two-track trails. No new roads would be constructed to reach oil and gas well sites because no oil and gas exploration and development is anticipated.

Impacts to Oil and Gas Exploration and Production

There is not likely to be any effect on mineral resources if the WSA is not designated wilderness. While the WSA would be open to mineral exploration and development, the potential for such development to occur is relatively low. The most probable recoverable reserves for oil and gas in the WSA are estimated as zero. The development of mineral resources is not anticipated; therefore, no production of minerals from the WSA is expected.

Conclusion. If the area were not designated wilderness, there would probably be no increase in oil and gas production from the WSA. No exploration or development is anticipated because the recoverable reserves in the WSA have been estimated as zero.

Impacts to Water Resources

Surface-disturbing activities associated with mineral development are not anticipated. Other activities in the WSA (e.g., livestock grazing and recreation) are expected to remain at current levels and are not expected to adversely affect water

SITE-SPECIFIC ANALYSES — RED CREEK BADLANDS

quality or quantity. Actions taken in connection with the Red Creek Watershed ACEC would benefit water quality. Overall, sedimentation would be reduced and water quality would improve.

Conclusion. If the WSA were not designated wilderness, it is anticipated that there would be an improvement in water quality because mineral development is not expected and management of the Red Creek Watershed ACEC would be directed at water quality improvement.

Impacts to Wildlife Habitat and Populations

One of the key values to be protected through implementation of the Red Creek Watershed ACEC Management Plan (8,500 acres of the ACEC) is wildlife habitat. Forage production is expected to increase and riparian habitat would improve as a result of better watershed management. However, wildlife numbers are not expected to increase, and may even decrease slightly, due to other factors, primarily displacement from natural use areas by oil and gas activities. Similar impacts would be anticipated in the WSA outside the ACEC (160 acres).

Conclusion. If the WSA were not designated wilderness, there would be no effect on wildlife habitat or numbers because no change in use of the WSA is expected.

Impacts to Wilderness Values

Although statutory protection would not be afforded the area, naturalness, solitude, and unique values are expected to remain largely intact because no disturbance associated with mineral activity is anticipated. However, solitude may be lost for short periods of time if the area receives recreation use involving ORVs. This use is expected to remain at its current low level. Overall, no significant losses in wilderness values would occur because there would be no mineral development and no change in recreation use. The implementation of the Red Creek Watershed ACEC Management Plan would help to protect some of the wilderness values.

The use of motorized vehicles in connection with range management activities would be occasional and would not affect wilderness values except for the short period of time when the activities are taking place (probably no more than a day or two). These activities would probably not be necessary every year. The occasional use would not result in existing trails becoming more visible.

Conclusion. If the WSA were not designated wilderness, the wilderness values in the WSA would

not be afforded statutory protection. Most of the wilderness values in the WSA (solitude and naturalness) would be preserved because no long-term disturbance is expected and the recreation use of the WSA is not expected to change.

Impacts to Recreation Opportunities

Motorized vehicle use would continue to be limited to designated roads and trails. These restrictions are currently in place and would not affect recreation opportunities either in the WSA or in the region. Other limited recreation uses, such as hunting, hiking, horseback riding, rockhounding, and wildlife observation are expected to remain at current levels.

Conclusion. If the WSA were not designated wilderness, there would be no changes in use of the WSA or changes in recreation opportunities.

Impacts of the Alternative (All Wilderness)

The All Wilderness Alternative would be that all 8,660 acres of the Red Creek Badlands WSA be recommended as suitable for wilderness designation. There would be no oil and gas leases issued in the WSA and no surface disturbance associated with oil and gas development. Motorized vehicles would be prohibited in the WSA.

Impacts to Oil and Gas Exploration and Production

The most probable recoverable reserves in the WSA have been estimated as zero. Therefore, if the WSA would be designated wilderness, it is likely that no oil and gas resources would be lost. However, the provision of not issuing oil and gas leases would preclude exploration for oil and gas.

Conclusion. If the WSA were designated wilderness, there would be no production of oil and gas; but, no production would be foregone because the recoverable reserves in the WSA are estimated as zero.

Impacts to Water Resources

Surface-disturbing activities associated with mineral development would not take place. Therefore, man-induced changes in the WSA would be limited. This would help minimize adverse impacts to water resources.

Actions that would be taken to implement the Red Creek Watershed ACEC Management Plan would result in beneficial impacts to water

SITE-SPECIFIC ANALYSES — RED CREEK BADLANDS

resources. Sedimentation and salinity contributions to the Colorado River system would be reduced, in part, because motorized vehicles would be eliminated. However, the WSA constitutes only a small portion of the 59,532-acre Red Creek Watershed ACEC, all of which has important water quality concerns. Due to this factor, the reduction of erosion and salinity under wilderness management, compared to the relatively restrictive management under the ACEC management plan, would be minimal.

Conclusion. If the WSA were designated wilderness, there would be beneficial impacts to water resources in both the short and long term by reducing factors which could increase erosion and sedimentation.

Impacts to Wildlife Habitat and Populations

There would be no surface disturbance associated with mineral development. Recreation activities would not be expected to change. A few hunters would not use the WSA because of the closure to motorized vehicles. They are expected to hunt in nearby areas. Overall, the impacts to big game habitat and numbers would be similar to those under the Proposed Action. The activities that are most likely to affect wildlife populations or their habitat are not expected to change and impacts to wildlife are not expected.

The potential limited vehicle use in connection with range management activities would not result in existing trails becoming more visible.

Conclusion. If the WSA were designated wilderness, wildlife habitat would be preserved. Existing populations would be protected because no additional surface disturbance would occur, motorized vehicles would be prohibited (except for infrequent use in connection with range management activities), and no changes in recreation use would be expected.

Impacts to Wilderness Values

The boundaries around most of the WSA are old seismic lines or abandoned roads which are indistinct and confusing to the public. These old routes

are used by hunters. Signing of the boundaries would be necessary along with periodic patrols to manage the area as wilderness. Section 16 on the north side of the unit is State land. Due to topography, the most logical access is from the south, along an old road constructed in 1959. To retain the integrity of the unit, it would be necessary to acquire section 16 and obliterate the old drill road. A tract of private land borders the unit along the southeastern boundary.

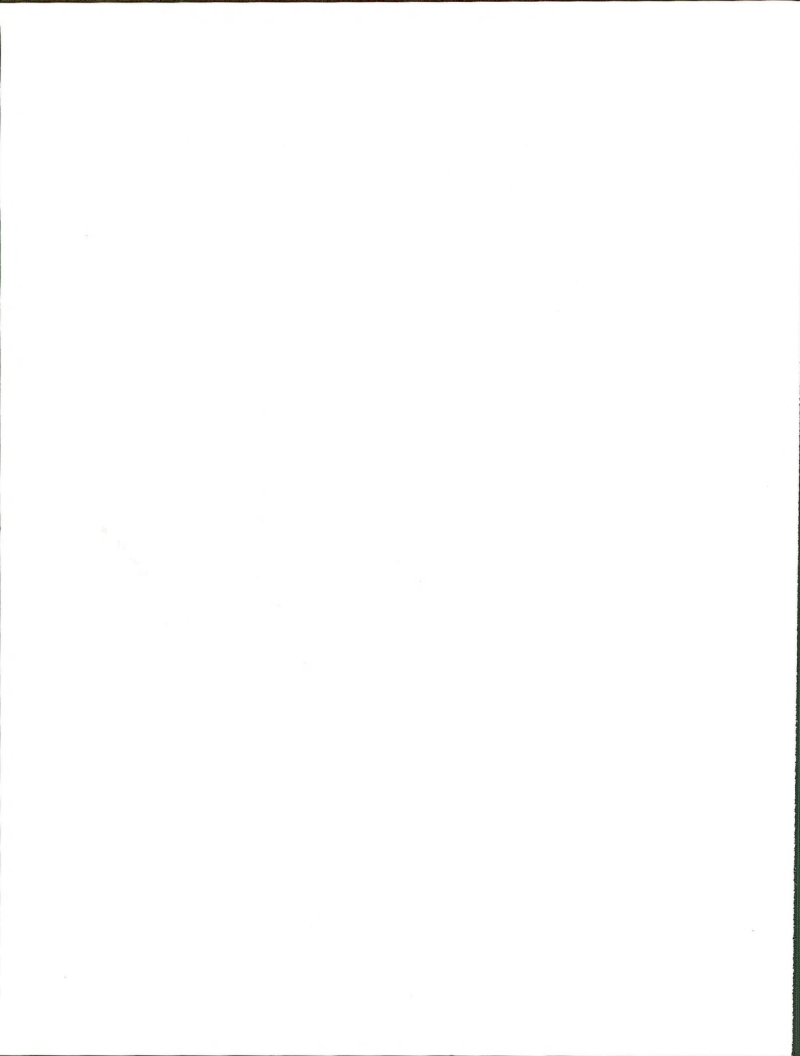
The area's naturalness, solitude, and opportunities for primitive recreation would be maintained within the WSA boundaries because of the lack of oil and gas activities and the closure to motorized vehicles. Wilderness designation would help to protect the unique values of this area. Designation of the WSA as wilderness is not expected to increase the public's use of or interest in the WSA.

Conclusion. If the WSA were designated wilderness, the area's wilderness values would be maintained because of the lack of development and motor vehicle activity in the area.

Impacts to Recreation Opportunities

Motorized vehicle use (including snowmobiles) would be eliminated within the WSA, except where authorized in connection with valid existing rights. This vehicle restriction could cause a slight decrease in vehicle-dependent recreation use, particularly hunting. Displaced hunters would be accommodated in adjacent areas or other areas of their choosing. Other limited recreation uses such as hiking, horseback riding, rock-hounding, and wildlife observation, would be expected to remain at current low levels. The designation of the WSA as wilderness would not increase the interest in, or use of, the area for recreation.

Conclusion. If the WSA were designated wilderness, there would be no effect on recreation opportunities because the levels and types of use in the WSA are very low and would easily be accommodated in nearby areas. Recreation related to the use of motorized vehicles would be eliminated. However, this use is small and is not expected to affect the public's ability to participate in this type of recreation in the area.



CHAPTER 3

CONSULTATION AND COORDINATION

EARLY COORDINATION

The wilderness review process involved public participation since its start in late 1978 when Rock Springs District staff met with various groups to outline the wilderness inventory process. In February 1979, BLM held open houses and public meetings in Big Piney, Kemmerer, Pinedale, and Rock Springs.

Proposed initial inventory decisions were announced by the BLM Wyoming State Director on February 7, 1979. A 90-day public comment period followed. A newspaper supplement describing proposed decisions (Summary and Facts About BLM's Wilderness Program) was distributed throughout the state. BLM held open houses and public meetings in Rock Springs, Kemmerer, and Pinedale (Spring of 1979) to explain the wilderness review process and to solicit public comments.

Decisions on the initial units to be intensively inventoried were issued on July 15, 1979. The Secretary of the Interior announced that BLM would conduct an accelerated inventory of lands in the Overthrust Belt by December 31, 1979. The inventory was conducted during the summer and fall of 1979.

The BLM held public meetings in Big Piney, Kemmerer, and Pinedale in October and November 1979, to discuss the inventory units. In April 1980, BLM published proposed decisions on the inventory in a newspaper supplement, BLM's Proposed Wilderness Study Areas - Wilderness Program in Wyoming, which tentatively identified the inventory units to be studied as WSAs and the units dropped from further consideration.

Open houses were held in May 1980, followed in June 1980, by public meetings in Rock Springs and Pinedale to receive comments on wilderness characteristics of each WSA, and on areas dropped from further consideration. Comments were accepted through August 19, 1980. In November 1980, BLM published the decisions in a newspaper supplement, Wyoming Wilderness Study Areas. The supplement contained a summary of public comments and announced an opportunity to protest decisions to the State Director through December 15, 1980. In May 1981, BLM published Wyoming Wilderness Study Areas, A

Final Inventory Report, which identified the WSAs to be examined in the study phase of the wilderness review process.

EIS SCOPING RESULTS

Public input throughout the inventory and planning processes helped BLM determine the issues (see Chapter 1) associated with wilderness designation in the Rock Springs District. Meetings early in the process found concern in Kemmerer and Rock Springs that livestock grazing and oil and gas exploration and development would be excluded from designated wilderness areas. Wildlife values and ORV use in wilderness inventory units were also identified as potential issues.

A concern expressed in Big Piney was that the inventory was being pushed to completion too fast, and that BLM should slow down and intensively study all inventory units. Pinedale ranchers felt that small areas adjacent to the Bridger-Teton National Forest should be dropped because of existing uses and problems associated with managing the areas for wilderness. Rock Springs ranchers and oil and gas interests were concerned that BLM did not recognize all the roads that exist in some inventory units. The Wyoming Recreation Commission opposed wilderness in any area where historic trails were located, or in areas adjacent to RARE II lands. The Governor expressed concern about state lands within and adjacent to WSAs.

On September 30, 1981, a public meeting was held in Rock Springs to solicit public input for the first draft EIS and to identify significant issues. A Notice of Intent to prepare the wilderness EIS was published in the *Federal Register* on August 27, 1981. The notice announced the time and location of the scoping meeting (16 persons attended). In September 1981, a letter was mailed to over 300 organizations and individuals and a news release was sent to local media. Written comments were received from 3 organization representatives who were unable to attend.

Public attitudes toward wilderness are discussed in Appendix A. The positions of the public were placed into categories relating to the number of wilderness areas they favor. The cate-

CONSULTATION AND COORDINATION

gories correspond to alternatives considered in the first draft EIS as districtwide alternatives.

PUBLIC CONSULTATION AND COORDINATION

On November 25, 1981, a letter was sent to over 300 organizations and individuals to inform them of the changes made in response to comments. In addition to scoping, formal and informal consultation was conducted with other federal and state agencies. In February and April 1982, meetings were held with state agencies to discuss issues such as state ownership of lands in wilderness areas, air quality policies, water quality policies, etc. The State Planning Coordinator provided information on some issues, and on the Wyoming Geological Survey's mineral potential rating in the WSAs. Area-wide and county planning organizations were contacted during preparation of the EIS.

REVIEW OF THE FIRST DRAFT EIS

The following list is intended as a representation of interested parties. It does not include all those receiving the first draft EIS. Copies of the first draft EIS were made available for public review at public libraries in Big Piney, Cheyenne, Evanston, Green River, Jackson, Kemmerer, Pinedale, Rock Springs, and Superior, Wyoming. Copies were also made available at the University of Wyoming Library at Laramie and the Colorado State University Library at Fort Collins.

Federal Agencies

Department of the Interior
Bureau of Reclamation
Bureau of Mines
Fish and Wildlife Service
Minerals Management Service
National Park Service
Geological Survey
Superintendent, Wind River Indian Reservation
Department of Agriculture
Forest Service
Soil Conservation Service
Department of the Air Force
Department of Energy
Environmental Protection Agency
Tennessee Valley Authority
Tribal Council, Shoshone and Arapahoe Tribes
U.S. Congressman Dick Cheney
U.S. Senators Alan Simpson and Malcolm Wallop

State Agencies

Governor's Office - Wyoming
Planning Coordinator's Office, State Clearing House - Wyoming (Distributes to State Agencies) also, to:
Wyoming Department of Economic Planning and Development
Wyoming Department of Environmental Quality, Land Quality Division
Wyoming Farm Bureau
Wyoming Game and Fish Department
Wyoming State Land Use Advisory Commission
Wyoming Recreation Commission
Wyoming Travel Commission
Utah Division of Wildlife Resources
State Senators and Representatives for Fremont, Lincoln, Sublette, Sweetwater, and Uinta counties

Local Governments

Afton Planning Board
Big Piney Planning Board
Evanston Planning Board
Fremont County Commissioners
Fremont County Planner
Green River Chamber of Commerce
Green River Planning Board
Lander Planning Board
Lincoln County Commissioners
Lincoln County Planner
Lincoln County Recreation Commission
Lincoln/Uinta Association of Governments
Lyman Planning Board
Mayor of Afton
Mayor of Big Piney
Mayor of Cokeville
Mayor of Diamondville
Mayor of Evanston
Mayor of Granger
Mayor of Green River
Mayor of Kemmerer
Mayor of LaBarge
Mayor of Lander
Mayor of Lyman
Mayor of Mountain View
Mayor of Pinedale
Mayor of Rock Springs
Mayor of Superior
Mayor of Thayne
Mayor of Wamsutter
Pinedale Chamber of Commerce
Rock Springs Chamber of Commerce
Rock Springs Planning Board
Sublette County Commissioners
Superintendent, District 1 Schools
Superintendent, District 2 Schools
Sweetwater County Association of Governments
Sweetwater County Commissioners
Sweetwater County Priorities Board
Thayne Planning Board
Uinta County Commissioners

Educational Organizations

Center for Urban Affairs and Policy Research
University of Wyoming
Institute for Policy Research
Water Resources Research Institute
Western Wyoming College

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Private Interests

Allied Chemical Corporation
Amoco Production Company
Arco Coal Company
Beard Oil Company
Belco Petroleum Corporation
Black Butte Coal Company
Bronco Exploration
Champlin Petroleum Company
Chevron U.S.A. Inc.
Church and Dwight Company Inc.
Cities Service Company
Coastal Oil and Gas Corporation
Consolidation Coal Company
Cumberland Coal Company
Davis Oil Company
DEDCO Inc.
Energy Reserves Group
Exxon Company
FMC Inc.
Gulf Oil Corporation
Inter North Inc.
Kerr-McGee Coal Corporation
KOCM Exploration Company
Marathon Oil Company
Mesa Petroleum Company
Mobil Oil Corporation
Mountain Bell Telephone Company
Mountain Fuel Supply Company
Natural Gas Corporation of California
Northern Minerals Company
Pace Company
Pacific Power and Light Company
Peabody Coal Company
Pennzoil Exploration and Production Company
Peter Klewit Sons and Company
Petroleum Inc.
Phillips Petroleum Company
Prenalta Corporation
Regulus Corporation
Rocky Mountain Energy
Shell Oil Company
Sovereign Oil Company
Standard Oil (Indiana)
Stauffer Chemical Company
Tenneco Oil Company
Teton Exploration Drilling Company Inc.
Texaco Inc.
Texas Gulf Inc.
Texas Oil and Gas Corporation
Union Oil Company of California
U.S. Steel Corporation
Utah International Inc.
Utah Power and Light Company
Vulcan Materials Company
Wexpro Company

Other Interested Organizations and Individuals

American Wilderness Alliance
Calvin Ragsdale
Capitola Fox Livestock
Castle Rock Gem and Mineral Club
Citizens for the Survival of the Red Desert

Defenders of Wildlife
ENACTICS
Earth First!
Environmental Defense Fund
Finis Mitchell
Friends of the Earth
Green River Valley Cattlemen's Association
Hugh Wardell
Izaak Walton League
National Audubon Society
National Wildlife Federation
Natural Resource Defense Council
Old West Regional Commission
Petroleum Association of Wyoming
Powell Recreation District
Rock Springs Gem and Mineral Club
Rocky Mountain Mineralogical Society
Sierra Club
Sierra Club Legal Defense Fund
Southwest Wyoming Industrial Association
Sublette County Wildlife Association
Sweetwater County Wildlife Association
Sweetwater Farm Bureau
Upper Green River Chapter of Trout Unlimited
Wild Horse Organized Assistance
Wilderness Society
Wildlife Management Institute
Wyoming Farm Bureau Federation
Wyoming Mining Association
Wyoming Natural Heritage Program
Wyoming Outdoor Council
Wyoming Outfitters Association
Wyoming Public Lands Council
Wyoming State Archives
Wyoming State Gem and Mineral Society
Wyoming State Snowmobile Association
Wyoming Timber Industry
Wyoming Wilderness Association
Wyoming Wildlife Federation
Wyoming Wool Growers Association
YWCA of Sweetwater County
Yose Cattle Company

PUBLIC COMMENTS AND RESPONSES

During the review process for the first draft EIS, 565 letters and cards were received from federal and state agencies; private organizations such as environmental groups and oil and gas interests; and individuals such as off-road vehicle users, livestock operators, and wilderness enthusiasts. All letters, cards, and testimony were reviewed and considered in the preparation of the revised draft EIS. Where appropriate, the revised draft EIS was changed to respond to the comments.

Those who commented on the first draft EIS should comment again on this revised draft EIS. The only comments that will be considered in the preparation of the final EIS will be those submitted on this revised draft EIS.

CONSULTATION AND COORDINATION

Public Hearing

A public hearing was conducted by the BLM on March 16, 1983, at Western Wyoming College in Rock Springs, Wyoming. Oral testimony was received from 28 witnesses; two persons submitted written comments. Another public hearing will be conducted following the publication of this revised draft EIS.

LIST OF PREPARERS

This EIS was written by a core team with assistance from an interdisciplinary team. The core team was primarily responsible for preparing this document, with technical guidance and input from the special assistance team. Table 3-1 lists the preparers of this EIS and the draft EIS.

**TABLE 3-1
LIST OF PREPARERS**

Name	PFEIS Assignment	College Education	Experience
Alan Stein	Team Leader	B.S. Biology, Delaware Valley College; M.S., Biology, West Virginia University	13 years BLM, 2 years EPA
Bill McMahan	Assistant Team Leader	B.S. Wildlife Management, Colorado State University	22 years BLM
Angelina Prych	Writer-Editor	B.S. Business Administration, University of Nebraska at Omaha	6 years BLM, 2 years U.S. Air Force
Harold Johnson	Technical Coordinator, Wilderness Study Report Team Leader	B.S. Forest Recreation & Park Mgmt., Southern Illinois University	6 years BLM, 10 years U.S. Fish & Wildlife Service
Bruce Baker Wildlife	Special Assistance Wildlife	B.S. Biology, Calif. State Univ.; M.S. Wildlife Mgmt., Humboldt St. Univ.; PhD. Wildlife Ecol., Texas A&M	8 years BLM
Jack Bogle	Special Assistance Recreation	B.S. Natural Resource Mgmt., Humboldt State University	13 years BLM
Todd Christensen	Special Assistance Range	B.S. Range Management University of Wyoming	6 years BLM
Wayne Erickson	Wyoming State Office Wilderness Coordinator	B.S. Forest Recreation Mgmt., Utah State University	21 years BLM
Edward McTaggart	Wyoming State Office Environmental Coordinator	B.S. Forest Recreation Mgmt., Colorado State University	22 years BLM
Bruce Smith	Special Assistance Wildlife	B.S. Fish & Wildlife Mgmt., University of Wyoming	13 years BLM, 2 years Peace Corps
Dean Stilwell	Special Assistance Minerals	B.S. & M.S. Geology, University of Nebraska	7 years BLM, 1 year industry 2 1/2 years Univ. Neb., 1 year Neb. Geol. Survey
Jeff Hunt	Fluid Minerals	B.S. Petroleum Engineering, University of So. Louisiana	3 years BLM, 3 years private industry
Russell Storbo	Special Assistance Recreation	B.S. Park & Recreation Mgmt., California State University	9 years BLM, 2 years National Park Service
Colin Voigt	Special Assistance Soils	B.S. Agronomy, University of Kentucky	8 years BLM
Wyoming State Office	Map Preparation and Printing		

APPENDIX A

PUBLIC ATTITUDES TOWARD WILDERNESS

The attitudes and values of regional wilderness users toward wilderness, reflects a desire for continued growth and a perception that there is an abundance of western wilderness. One survey indicating public attitudes is *Attitudes Toward Wilderness: A Limited Survey of Wilderness Attitudes in Selected Wyoming Communities* (Warren and Warder 1978). The study included 175 persons and was conducted by the University of Wyoming for the BLM, after the Forest Service's RARE II survey was completed. Only the Big Piney community was represented from the Rock Springs District.

The study indicates there is public antipathy toward additional wilderness in Wyoming, especially on BLM administered land. It notes, the most common attitude state-wide was, "we have enough!" However, the study uncovered misconceptions about wilderness that could skew public attitudes. Many persons thought that grazing and horse use in wilderness areas would be phased out. Many felt that any wilderness would hurt the economy. Most favored "multiple use" management and felt that wilderness was "for the select few." According to the study, respondents felt they were misled and abused by the federal government in the RARE II proceedings. Most stated the BLM would have a difficult time receiving public support for wilderness because of this.

Public correlation of the RARE II process with the BLM wilderness study process could be interpreted to mean that BLM has an opportunity to avoid some public misconceptions involved in RARE I and RARE II. The Boston College Environmental Law Review (Rickart 1980) noted: "still, the RARE II WARS permitted the exercise of a great deal of personal discretion on the part of (FS) administrators. Increased efforts to subject regional judgments to a centralized review standard will help to bolster the credibility of the BLM survey."

The national standards BLM established are important for fair wilderness consideration. Public opinion expressed during the wilderness study and comments expressed during the review of the first draft EIS are important. The first draft EIS was extensively circulated to obtain public comments and determine public attitudes. Although the rest

of this discussion refers to several studies on regional and national attitudes, the last study of public attitudes and final forum for decisionmaking will be in Congress.

A study of public attitudes in Montana, Idaho, and Wyoming was conducted in 1978 by the Opinion Research Corporation (ORC 1978a-c). They indicated that, in each state, 52 to 58 percent felt the current wilderness areas were adequate. The ORC surveys confirmed that confusion exists as to what a wilderness area is. It indicated that 64 percent favored energy development in potential wilderness areas. When surveyed in 1981, the figure jumped to 74 percent. However, respondents also felt that other means should be used to meet America's energy needs (alternate fuels, use renewable sources, conservation).

Another survey included every Wyoming voter. It was conducted in 1979 and again in December 1981 by Wyoming's U.S. Congressman Cheney. The 1979 questionnaire asked for the public's general feeling about creating more wilderness areas in Wyoming. The response was:

- 14%—As much qualified acreage as possible should be recommended for wilderness designation in order to protect the land.
- 39%—Some areas should be designated as wilderness, others should be open to more uses.
- 47%—There is already considerable wilderness acreage in Wyoming, and any additions should be kept to a minimum.

The 1981 questionnaire asked a different question regarding wilderness. Over 12,000 Wyoming residents responded to: "A 1964 federal law allows development of oil and gas and other minerals that may exist beneath lands set aside by Congress as national wilderness areas, such as the Washakie Wilderness Area in Wyoming. Which of the statements below best represents your own feeling about exploration and development activity in wilderness areas?"

- 58%—Energy and minerals are where you find them. While care should be taken to protect the environment, these resources need to be developed, even in wilderness areas.

APPENDIX A - PUBLIC ATTITUDES TOWARD WILDERNESS

41%—I am all for developing our energy resources, but not in wilderness areas. Congress was wrong to allow such activity and it should change the law so that energy development in wilderness areas would be prohibited.

A key link in the Wyoming public's mind is an association of wilderness with wildlife. Although Daniel Poole of the Wildlife Management Institute said, "Wilderness is neither good nor bad for wildlife generally"; in Wyoming there is an understandable tendency to link the two values. The word "wilderness" is derived from the Old English for "wild animal," but wildlife is not specifically cited within the 1964 Wilderness Act. In this wilderness use region, wildlife observation ("nonconsumptive") and hunting and fishing ("consumptive"), are three of the highest natural resource and recreation values. Impacts to these values can be pivotal to land management decisions.

Some indications of national attitudes from polls and studies may be helpful. An ORC sample in 1978 (ORC 1978d) showed that 55 percent felt that wilderness decisions should be made by the citizens of the states affected; giving credence to BLM listening carefully to attitudes within the wilderness use region. The 1981 ORC national polls and the 1981 Gallup polls indicated the national

public is interested in environmental protection, but not at the expense of economic growth. A 1979 study by S. Kellert of Yale University confirms the importance of wildlife values in wilderness areas by asking for agreement or disagreement with this statement: "National resources must be developed even if the loss of wilderness results in much smaller wildlife populations." Nationally, 51 percent disagreed; in the Rocky Mountain region, 39 percent disagreed; but on specific issues (e.g., eagles), 91 percent felt protection was important. Seventy-five percent of livestock producers in the Rocky Mountain Region disagreed, reflecting a long-time wildlife interest, typical of the Rock Springs region.

National polls and studies are faced with the problem of lack of public information and understanding. In an Illinois doctoral thesis on wilderness attitudes (Young 1978), it was found that only 1.4 percent of the public visited wilderness areas each year. Reasons provided by the respondents for not visiting them were: "not enough time" and "did not know enough about them."

In summary, public attitudes seem to favor a hard look by BLM before proposing wilderness designation. Careful consideration of public attitudes and values should be an integral part of any wilderness decisions.

GLOSSARY

ACTIVE DUNE. A hill or accumulation of sand shaped by wind. A dune is active, or "live," when constantly changing form under wind currents. Generally, an active dune is bare of vegetation.

ALKALINE-SALINE SOIL. A soil with a pH greater than 7.0 throughout most or all of it occupied by plant roots; and enough soluble salts to impair its productivity for plants.

ALLOWABLE CUT. The amount of timber considered available for cutting during a specified period (year, decade, etc.).

ALLUVIAL FAN. A cone-shaped deposit of sediment from a stream, generally formed where streams issue from mountains upon the lowlands or where a faster moving stream meets a slower moving stream.

ALLUVIUM. Unconsolidated fragments from preexisting rocks or minerals, moved from their place of origin and deposited by running water; including gravel, sand, silt, clay, and various mixtures of these materials.

ANIMAL UNIT MONTH (AUM). The amount of forage to sustain one mature cow or the equivalent, based on an average daily forage consumption of 26 pounds of dry matter per day. In July 1980, the BLM met with the University of Wyoming and the Wyoming Game and Fish Department to determine the equivalent animal units for other ungulate species; based on a weight conversion (3 percent body weight per day), the equivalents are: 10.5 for antelope; 7.6, deer; 2.1, elk; 1.2, moose; 0.9, wild horses; and 5.2, sheep. Competition is not included in these numbers.

ANTICLINAL. Inclined toward each other; an anticline is a unit of folded strata that is convex upward. In simple anticlines the beds are oppositely inclined. In more complex types the limbs of strata may dip in the same direction.

BADLAND TOPOGRAPHY. A surface configuration characterized by intricate and sharp erosional scar sculpture of weak rocks, forming steep, furrowed, and fantastically shaped hills, labyrinth-like drainage patterns, and normally dry watercourses.

BOARD FOOT. A measurement of the volume of a tree which is based on a block of wood one foot on each side and one inch thick.

CHECKERBOARD LAND PATTERN. Alternating sections of federally owned lands with private or State lands for 20 miles on either side of the Union Pacific railroad in southwestern Wyoming. This pattern of land ownership looks like a checkerboard on maps using different colors for different land status.

CHERRYSTEMMED. A boundary configuration where the boundary of a WSA is drawn around a dead-end road or other linear feature to exclude it from the WSA.

CLINOPTILOLITE. A zeolite mineral occurring in the tuff of the Bridger Formation; it is a hydrous aluminosilicate formed by the alteration of volcanic tuffs and glasses. Zeolites are used in Japan as absorbents in drying, in air separation, in water treatment, in the paper industry, as a dietary supplement for livestock, and as a soil conditioner.

CONSUMPTIVE USE. Recreation activities which consume natural resources. Hunting and fishing are regarded as consumptive recreation because wildlife are consumed. Rockhounding is consumptive because nonrenewable resources are removed.

DOMES. A rounded, domical dune.

EOLIAN ICE-CELLS. Perennial ice formed from snowfall and insulated from summer heat by a cover of windblown sands. This ice feeds small ponds within the dunes.

ERODIBILITY. The relative ease with which one soil erodes under specified conditions of slope as compared with other soils under similar conditions; applies to both sheet and gully erosion.

FLUVIATILE. Produced by river action; belonging to a river.

GEOSYNCLINAL. Refers to a large, generally linear trough that subsided deeply throughout a long period of time in which a thick succession of stratified sediments and possibly extrusive volcanic rocks commonly accumulated.

HUNTER-DAY. The presence of one person in an area of land or water for the purpose of engaging in a hunting activity during all or part of a calendar day.

INTERMITTENT STREAM. A stream or portion of a stream that flows only in direct response to precipitation. It receives little or no water from springs and is dry for a large part of the year.

LACUSTRINE. Produced by or formed in a lake or lakes.

LANDFORM. A distinctive geometric configuration of the earth's surface; a topographic relief feature.

LEASABLE MINERALS. Minerals subject to lease by the Federal Government; include oil and gas, coal, phosphate, sodium, potash, and oil shale, as well as geothermal resources.

LOCATABLE MINERALS. Minerals subject to disposal and development through the Mining Law of 1872 (as amended). Generally includes metallic minerals such as gold and silver and other materials not subject to lease or sale.

MULTIPLE USE. In Section 103 of FLPPA, "...the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific, and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with

GLOSSARY

- relative consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest return or the greatest unit output."
- NATIONAL REGISTER OF HISTORIC PLACES.** A list of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, and culture.
- NATURAL EROSION.** The wearing away of the land surface by running water, waves, moving ice and wind, or by such processes as mass wasting and corrosion (solution and other chemical processes) as a result of natural, versus manmade, processes.
- NATURALNESS.** In Section 2(c) of the Wilderness Act, the wilderness characteristic in which an area "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable."
- NONCONSUMPTIVE USE.** Recreation activities which do not consume natural resources or are relatively benign with regard to their impact on the environment. Hiking, backpacking, sightseeing, camping, nature study and photography, and picnicking are regarded as nonconsumptive recreation.
- NONDEGRADATION REQUIREMENTS.** Measures to prevent unnecessary or undue degradation of an area's wilderness character from surface disturbances. Such measures may include requirements to prevent water pollution through contamination or siltation of streams; scalping and stockpiling of sod from the area to be disturbed for later use in reestablishing vegetation; minimizing air and noise pollution; trenching of disturbed slopes; placing retaining walls to prevent tailings from entering stream channels, etc.
- NONIMPAIRMENT CRITERIA.** The stipulations by which temporary impacts in a wilderness study area can be rehabilitated to be substantially unnoticeable; the damaged environmental systems are capable of being rehabilitated to essentially the condition which existed on the date the activity was approved by BLM; and rehabilitation can be accomplished practically by the time of Congressional designation of the area as wilderness or, in the case of new mineral activities, within five years of designation.
- PARABOLIC.** A dune shaped like a parabola (approximately bowl-shaped), with the concave side toward the wind.
- PERENNIAL STREAM.** A stream or reach of a stream that flows continuously throughout the year, and whose upper surface generally stands lower than the water table in the region adjoining the stream. A permanent or live stream.
- PLAYA.** The usually dry and nearly level lake plain that occupies the lowest parts of closed depressions, such as those occurring on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation runoff events, forming broad, shallow sheets of water which quickly gather and almost as quickly evaporate.
- PUBLIC LAND.** Land administered by the Bureau of Land Management.
- RAPTOR.** A bird of prey, such as an eagle, hawk, or owl.
- RARE SPECIES.** Wildlife species whose populations are consistently small and widely dispersed, or whose ranges are restricted to a few localities, such that any appreciable reduction in numbers, habitat availability, or habitat condition might lead toward extinction.
- RIPARIAN.** Situated on or pertaining to the bank of a river, stream, or other body of water. Normally used to refer to the plants of all types that grow rooted in the water table or streams, ponds, springs, etc.
- SENSITIVE SPECIES.** Wildlife species whose numbers are declining so rapidly that official listing as threatened or endangered pursuant to Section 4 of the Endangered Species Act may become necessary as a conservation measure. Declines may be due to one or more factors, including: destruction, modification, or curtailment of the species' habitat or range; overutilization for commercial, sporting, scientific, or educational purposes; disease or predation; the inadequacy of existing regulatory mechanisms; or other natural or manmade factors adversely affecting the species' continued existence.
- SOLITUDE.** 1. The state of being alone or remote from habitations; isolation. 2. A lonely, unfrequented, or secluded place.
- STABILIZED DUNE.** A dune protected from further wind action by a cover of vegetation or by cementation of the sand; known also as a "fixed" or "anchored" dune.
- STABILITY.** The extent to which vertical or horizontal mixing, or movement, of air layers occurs; expressed generally as stable, unstable, or neutral, the atmospheric stability class is one of the key dispersion factors. Under stable conditions, vertical mixing is suppressed; i.e., a mass of air tends to remain in the same position rather than the normal horizontal or vertical movements. Unstable conditions enhance vertical turbulence; i.e., a mass of air forced upward will continue to rise and a mass of air forced downward will continue to sink. Under neutral conditions, a mass of air forced upward would have no vertical acceleration.
- STIPULATION.** A restriction placed on an oil and gas lease or other use authorization to protect other resources (e.g., a seasonal restriction to protect big game on their winter range or on their calving grounds). The restriction would preclude or restrict activities that could take place.
- SUPPLEMENTAL VALUES.** Values that may be present in an area under consideration for wilderness, such as ecological, geological, or other features of scientific, educational, scenic, or historical value. They are not required for wilderness designation, but their presence would enhance an area's wilderness quality.
- TERRACE.** A step-like surface, bordering a valley floor or shoreline, that represents the former position of an alluvial plain, or lake or sea shore. The term usually applies to both the relatively flat summit surface (platform), that was cut or built by stream or wave action, and the steeper descending slope (scarp), graded to the lower base level of erosion.
- TERTIARY.** The first period of the Cenozoic Era of geologic time, following the Mesozoic Era of preceding the Quaternary (approximately from 65 million to 2 million years ago).
- THREATENED AND ENDANGERED SPECIES.** As defined by the Endangered Species Act of 1973 as amended (P.L. 93-205; 87 Stat. 884), an endangered species means "any species which is in danger of extinction throughout all or a significant portion of its range" and a threatened species means "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Whether a species is threatened or endangered is determined by any of the following factors: (1) present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, sporting, scientific, or educational purposes; (3) disease

GLOSSARY

or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence.

THRUST BELT. An intensely faulted belt of mountain ranges. Thrust faults are low angle ruptures in the earth's crust that relieved deep compressional forces. The surface expression of this tectonic activity is westward dipping formations exposed in ridges or mountain ranges. Each ridge moved horizontally and vertically to its position along at least one thrust fault.

TOPOGRAPHIC RELIEF. The positions and elevations of the natural or manmade features of an area that describe the configuration of its surface.

TRANSVERSE. A strongly asymmetrical dune ridge extending transverse to the direction of the dominant sand-moving winds; the leeward slope stands at or near the angle of repose of sand if the dune is active, while the windward slope is comparatively gentle.

TRONA. A naturally occurring sodium sesquicarbonate that was formed in ancient saline lakes. It is generally honey or light brown in color, depending upon the impurities present. It is the major natural source of soda ash.

TUFF. A rock formed of compacted volcanic fragments, generally smaller than four millimeters in diameter.

UNDERSTORY SPECIES. The portion of a plant community which grows underneath taller plants located on the same site.

VEGETATION MANIPULATION. Land treatment projects designed to improve the growth of more desirable plant species on a given area. Biological, chemical, or mechanical methods of vegetation removal, including prescribed burns, are used.

VISITOR-DAY. The presence of one or more persons on an area of land or water for the purpose of engaging in one or more recreational activities for a period of time aggregating 12 hours.

VISUAL RESOURCE MANAGEMENT CLASSES (VRM). A BLM classification system containing specific objectives for maintaining or enhancing visual resources, including the kinds of structures and modifications acceptable to meet established visual goals.

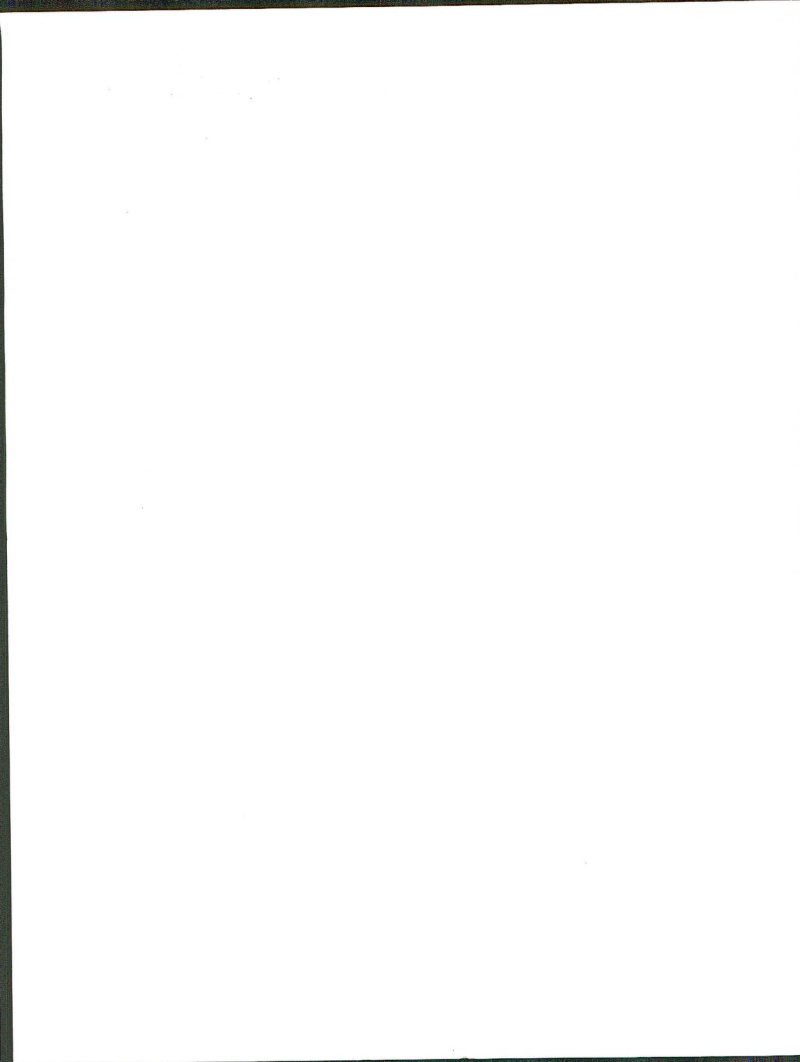
WITHDRAWAL. Removal or withholding of public lands, by statute or Secretarial order, from operation of some or all of the public land laws. A mineral withdrawal for classification includes public lands potentially valuable for leasable minerals, precluding the disposal of the lands except with a mineral reservation clause unless the lands are found not to contain a valuable deposit of minerals. A recreational withdrawal reserves public lands designated as chiefly valuable for recreational purposes and as suitable for State exchange, recreational entry, or recreational lease.

ABBREVIATIONS

ACEC	Area of Critical Environmental Concern
APD	Application for a Permit to Drill (an oil or gas well)
AUM	Animal unit month
ACEC	Area of Critical Environmental Concern
BBLs	Barrels (a measure of the quantity of condensate)
BCF	Billion cubic feet (a measure of quantity of natural gas)
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CSR	Channel stability rating
EIS	Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act (of 1976)
FMU	Forest management unit
FR	Federal Register
KGS	Known geologic structure
HMP	Habitat management plan
IBLA	Interior Board of Land Appeals
MFP	Management Framework Plan (pre-FLPMA BLM land use plan)
mbf	Thousand board feet (a measure of timber volume)
mmbf	Million board feet (a measure of timber volume)
NEPA	National Environmental Policy Act (of 1969)
NHPA	National Historic Preservation Act
NRA	National Recreation Area
NRHP	National Register of Historic Places
NSO	No Surface Occupancy (a stipulation on an oil and gas lease)
NWPS	National Wilderness Preservation System
ORC	Opinion Research Corporation
ORV	Off-road vehicle
RMP	Resource Management Plan (BLM land use plan under FLPMA)
SHPO	State Historic Preservation Officer
USFWS	U.S. Fish and Wildlife Service
WGFD	Wyoming Game and Fish Department
WSA	Wilderness Study Area

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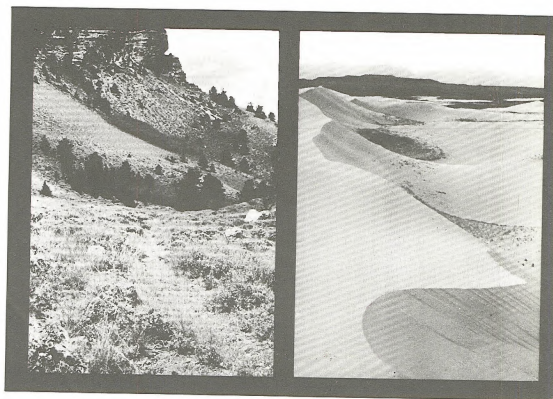
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